PAPER TRADE JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Established 1886

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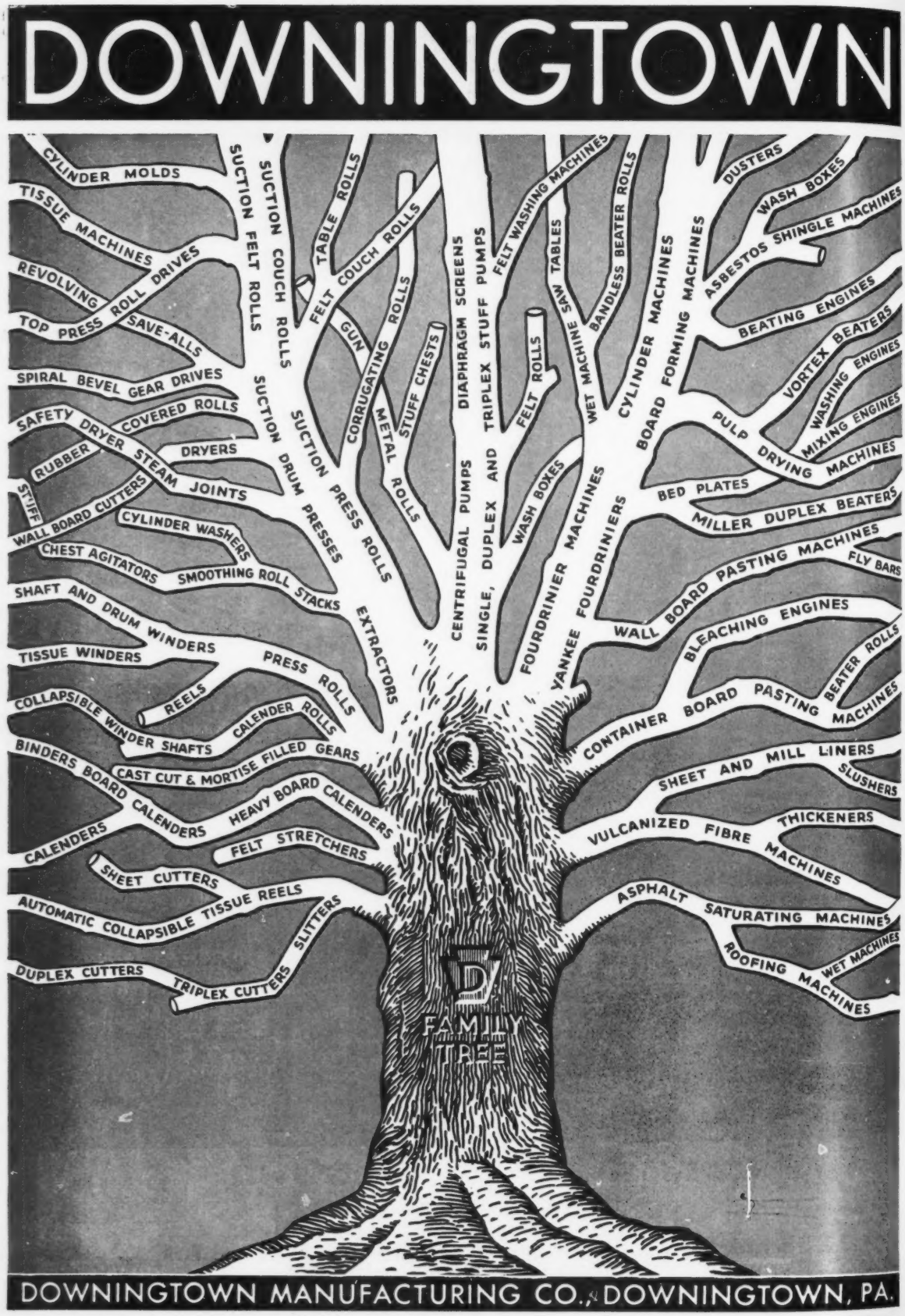

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Standard

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Lime Mud Washing
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Lime Reburning

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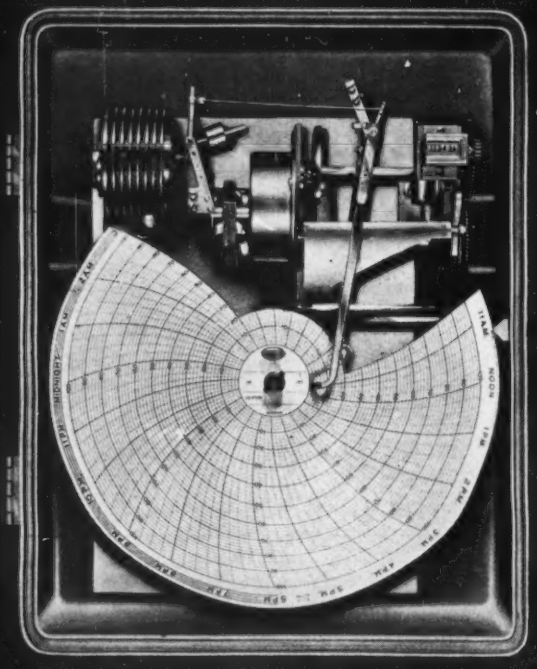
MEASURE

White Water Losses

ECONOMICALLY



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PAPER TRADE JOURNAL

Reg. U. S. Pat. Off.

SIXTY-SIXTH YEAR

PAPER

Established Feb. 17, 1899
Consolidated Nov. 16, 1899
with Paper Trade Journal.

Vol. CV, No. 22 Thursday, November 25, 1937

PAPER

Established Sept. 21, 1910
Consolidated Feb. 19, 1925
with Paper Trade Journal.

Newsprint Mill At Baie Comeau To Make First Paper About January 1

The new mill of Ontario Paper Company, subsidiary of the *Chicago Tribune* and *New York Daily News*, is now nearing completion at Baie Comeau, Quebec. First plans called for the mill to go into production about July 1, 1938, but it now appears that newsprint will be produced January 1, 1938. The entire output of the new mill will go to *The Daily News*.

Rapid Progress on Construction

During this past summer and fall rapid progress was made on the mill construction, townsite and power plant at Outardes Falls, sixteen miles distant. The main equipment in the mill is now being installed and the first unit of the power plant is already in operation. In the town a large number of residences are already completed, several stores and business buildings are finished and occupied; hospitals, schools and other buildings are under construction. By next spring, when the mill goes into operation the town will be a complete, planned community.

Before the close of navigation this fall the paper mill equipment had been shipped to Baie Comeau and installation has already commenced. This work will be completed during the winter months. Sufficient wood has already been cut and floated down to the millsite to permit production as soon as the mill is ready. Woodlands operations were speeded this fall in order that flumes would be ready to carry this supply.

Up-to-date Equipment

The newsprint mill will have a capacity of 740,000 lbs. for 24 hours. Fourdriniers for the plant, costing in the neighborhood of $2,000,000, were built and are now being installed by the Dominion Engineering Company Ltd. of Montreal, Que. The ground wood mill and the sulphite pulp mill connected with the plant also are being equipped with the very latest and most up-to-date types of machinery.

Largest Development Since Depression

The largest development in Canada since before the depression, the Baie Comeau project has been carried through on or well ahead of schedule and this, in spite of the many difficulties encountered in

General View of the Baie Comeau Millsite.

construction in such a remote territory. Almost a hundred of the largest construction and equipment companies in Canada have entered into the project which has supplied, directly and indirectly, employment for thousands of Canadians. Behind the entire project is the figure of Col. Robert R. McCormick, publisher of *The Chicago Tribune*. President and general manager of the Ontario Paper Company is A. A. Schmon, of Thorold, Ontario. General contractors on the job are the Foundation Company of Canada Limited, Montreal.

Scott Adds Beloit Fourdrinier

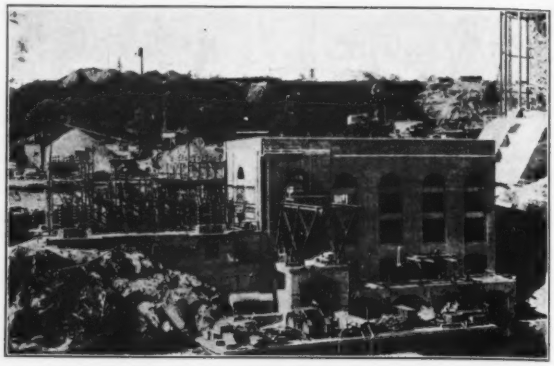
The continued increase in the popular demand for Scott products has made it necessary again for the Scott Paper Company to enlarge the capacity of its plant at Chester, Pa. An expansion program of a new paper machine, finishing equipment, enlarged water filtration plant and necessary building additions has been undertaken.

The paper machine is under construction at the Beloit Iron Works, Beloit, Wis. Assembly work at Chester began in September and it is hoped that the new paper-making unit will be in production by the end of 1937. The new machine is being installed in an extension of the plant for which ground was broken in June.

Manufacturing capacity will be increased approximately 16 per cent when "Number 14", as the new machine is tentatively designated, goes into production. It has been designed primarily to make ScotTissue and Waldorf toilet tissues, but can readily be adjusted to produce the paper for ScotTissue Towels, Waldorf Towels or ScotTowels for Kitchen use.

The new machine will be of the general Scott type but will embody the latest paper-making developments adaptable to tissue. Like its predecessors, it has been designed and engineered to effect a continuance of the long-established policy of our company, frequent quality improvements and higher paper-making speeds.

The total cost of the current plant expansion—paper and finishing machines, buildings and accessories —will be about $1,250,000. It is not expected that these expenditures will involve any outside financing.



SURGE TANK AND POWER PLANT AT OUTARDES FALLS, 16 MILES FROM BAIE COMEAU.

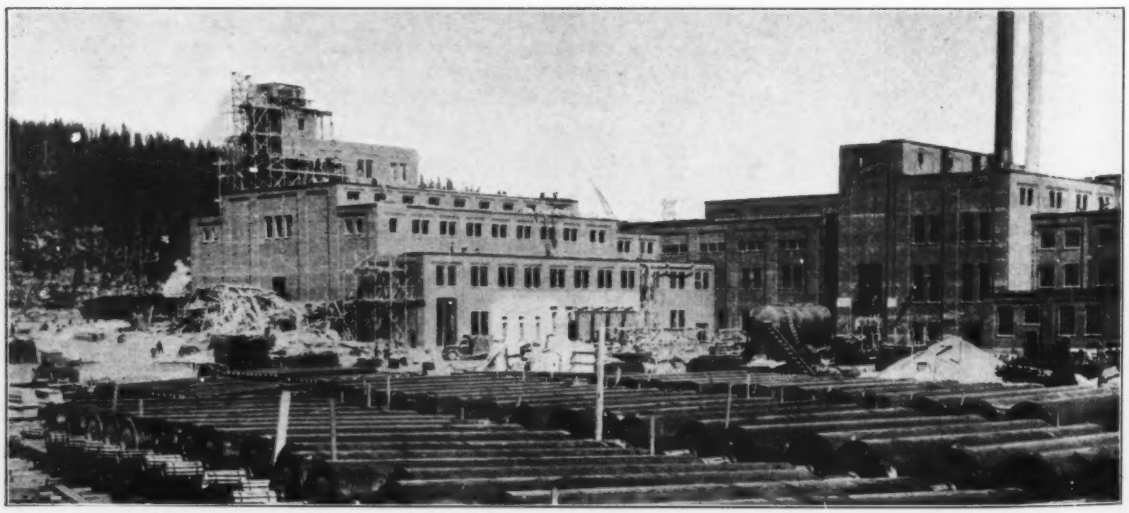
The Scott Paper Company's initial manufacturing operations at Chester, Pa., began in 1910 with two small, slow-speed cylinder paper machines. Sales that year were $726,000.

The original machines and four others subsequently installed have long since been replaced by wide, high-speed Fourdrinier machines. It has been the policy of the company to replace its older paper-making units with modern equipment as sales warranted increasing the plant capacity. At the end of last year, when sales reached a new high record of $11,600,000, there were six modern machines in continuous operation, manned by four six-hour shifts of operators and supervisors.

The further gain in business in the first half of 1937 has taxed the company's paper-making equipment to the utmost. The paper mill operated at full capacity in the first six months of the year. Production for the period, however, fell 7 per cent short of orders booked.

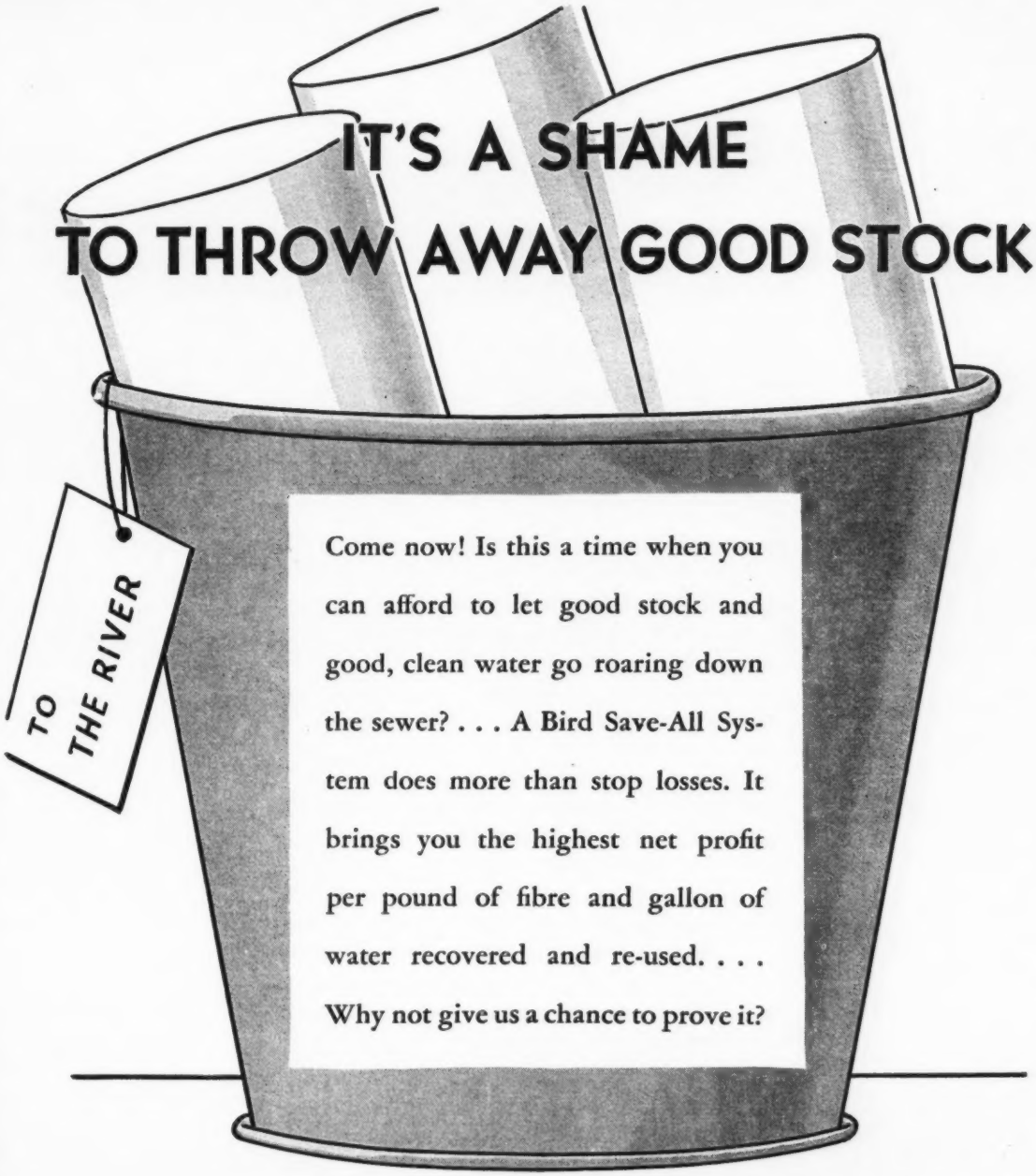
Scott Paper Co. Declares Extra Dividend

The Scott Paper Company has declared an extra dividend of 10 cents a share on the common stock in addition to the usual quarterly disbursement of 40 cents, both payable December 15.

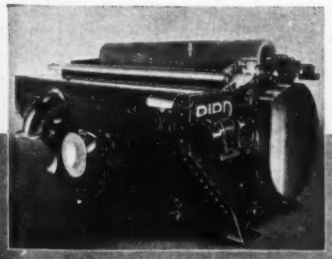


THE BAIE COMEAU MILL UNDER CONSTRUCTION WITH DRIERS IN THE FOREGROUND.

IT'S A SHAME TO THROW AWAY GOOD STOCK



Come now! Is this a time when you can afford to let good stock and good, clean water go roaring down the sewer? . . . A Bird Save-All System does more than stop losses. It brings you the highest net profit per pound of fibre and gallon of water recovered and re-used. . . . Why not give us a chance to prove it?



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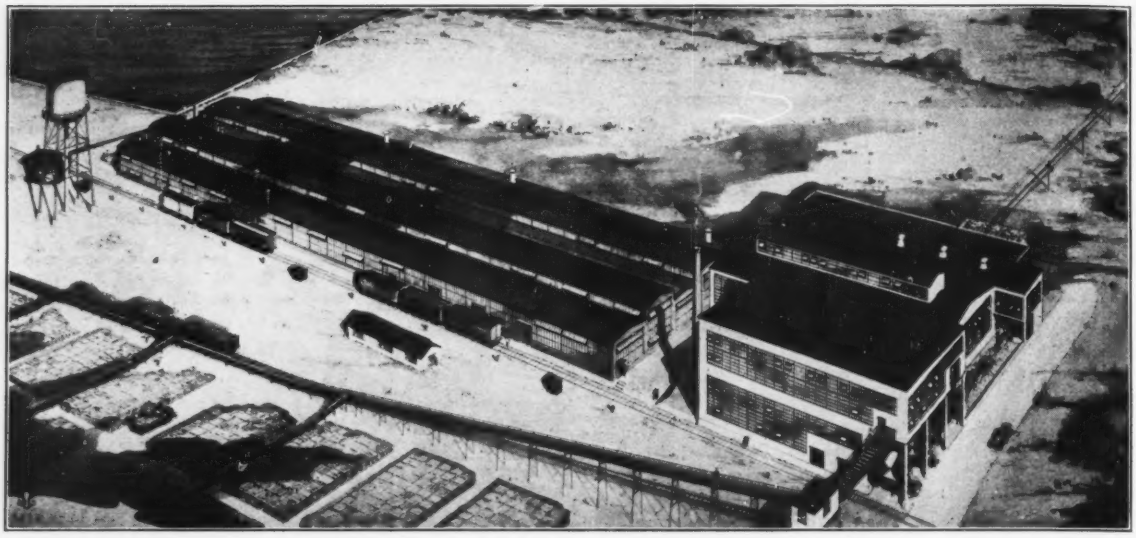


National Gypsum Co. Builds Wood Fiber Wall Board Plant at Mobile, Ala.

The new wood fiber wallboard plant of National Gypsum Company will be located at Mobile, Ala. The H. K. Ferguson Company of Cleveland, Ohio, in collaborotion with the company's technical staff, is designing and constructing the building, including the installation of equipment. The machinery will be of special design for an improved process for the manufacture of insulation decorative and acoustical boards from various kinds of Southern woods.

After an extensive engineering and economic survey of the manufacturing and marketing problems relating to wood fiber wallboard, the National Gypsum Company has selected the Mobile site as being the most strategic location to serve the trade.

The National Gypsum Company has, for the past several years, been jobbing insulation board merely to round out its line of building materials with the trade, and consequently the company will benefit from substantial savings in cost on its present established business when this plant comes into production next year, according to President Melvin H. Baker.

Located on Tide Water on Mobile Bay

The plant is located on tide water on Mobile Bay and occupies a 65 acre site. Wood will be secured from extensive timber acreage growing within very short distance of the plant, by railroad, water and truck facilities.

The plant site is of such acreage that extensive storage facilities are available which will make the proper ageing and handling of the wood to the mill simple. The wood will be handled from storage and receiving sources through conveyors so located that it will require only a minimum of manual handling. The flow of wood from storage into the mill has been studied with the thought of having continuous mechanical conveyors through each step in processing to eliminate handling cost and assure mechanical control of quality in the finished product.

To Utilize Ground Wood Pulp

The proposed Mobile plant for the National Gypsum Company will have means for mechanical conversion of pulp both by stone and attrition mills. Stone installation comprises an initial installation of four three pocket Carthage stone grinders, and sufficient pulping mills to secure a pre-determined blend and mixture so that conversion capacity will exceed 100 tons daily of the mixed stock.

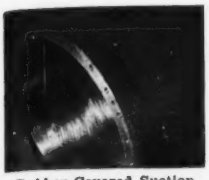
It is planned to utilize ground wood pulp and under a new method this will be refined and processed into a form of pulp which will provide an attractive matted insulating board.

From the wet end the processed pulp will be formed into a board sheet 12 feet wide by 20 feet long and up to 2 inches thick. This sheet will then be conveyed through a long mechanical drier heated with direct gas burners.

From the drier these sheets will automatically be reduced to commercial products into structural insulation board and sizes four feet wide by six feet to 20 feet long, structural insulation lath in sizes 16 inches by 32 inches by 48 inches, tile for interior decoration, special low density insulation for refrigeration and insulation for various types of commercial roofs. The plant has been so designed that it will be possible to produce wood fiber board products equal to any now manufactured for the trade. Fabricating equipment has been planned that will enable the plant to meet the demand of the trade for any size, color, shape and thicknesses.

Inexpensive Power and Gas

Power and natural gas which are available in the Mobile territory are being utilized by the National



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High-Speed Shake

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Silent Chain Dryer Drive

Balanced, Oilless Steam Joints

Hi Speed Dryer Condensate Remover

Automatic Winder and Roll Unloader

You Pay *for these* Improvements whether you use them or not

During the many recent hearings at Washington experts have testified that nearly one-third of all paper in this country is made on obsolete machines.

With wages and hours definitely set, the only way to make additional profits is through the operation of your machines. Use of less power to perform the same job, consumption of less oil and materials, elimination of undue break losses, lower clothing costs, production of better paper, speeding up of production—these are but a few of the many items that MODERN Beloit machinery can help to correct very definitely.

Thus, when you are not taking advantage of the Beloit improvements that are known and available to you for lowering your costs—your profits are just so much less—and whether you use these improvements or not, you actually are paying for them. The difference that you would save would soon pay for the new and improved equipment.

These facts have been established frequently in our contacts with mills and can be proved to you conclusively.

BELOIT IRON WORKS PAPER MACH'Y BELOIT, WIS.

THE BELOIT WAY IS THE MODERN WAY

BELOIT

Beloit Iron Works, Beloit, Wis., U.S.A. Founded 1858

Gypsum Company in the operation of this plant. The Mobile territory is especially attractive for a plant of this type due to the low price of power and gas for fuel and energy and it is being purchased from the power and gas utilities serving the area.

EXCELLENT TRANSPORTATION FACILITIES

The location of this plant on tide water, Mobile Bay, will permit the company to benefit from especially well developed transportation facilities. The finished product can be transported at low cost to all seaboard markets from Seattle, Washington, to Portland, Maine, including the Latin American countries where the Company expects an attractive volume.

National Gypsum Co. Expanding

Starting with gypsum plaster and wallboard 11 years ago, National Gypsum Company has had a rapid growth. Its original lines were supplemented with large production in hydrated lime, metal lath, interior paints and now from the Mobile development it will have a strong position in home insulation.

This 11 year development into one of the larger companies in the building field has given it a group of related products manufactured for sale through building material dealers from Coast to Coast by its own selling organization of more than 200 men and sales offices in the principal centers.

In spite of the let-up in building, Mr. Baker says that the Company's sales are currently running ahead of last year. After the present breathing spell resulting from high building costs, he is confident that a program for greater building activity will materialize, and intends that his company shall benefit from the sale of more products for each new home.

KVP Add Yankee Machine

On January 19, 1937, the directors of the Kalamazoo Vegetable Parchment Company, Kalamazoo, Mich., voted to install a Yankee paper machine. Construction of a building to hold the machine was started early in the spring and the accompanying picture, taken several weeks ago, shows the progress that has been made.

This Yankee machine will permit the manufacture of such papers as cannot be made on an ordinary straight Fourdrinier machine. It will make special papers for bread wrappers, fruit wrappers, and soap wrappers.

UNLOADING THE NEW DRIER

KVP now has a power plant, water filters, etc. sufficient for the new machine without the necessity of additional installations.

The small picture shows the unloading, by special Michigan Central wrecking train, of 110,000 lb. drier for the new machine. This was built by the Beloit Iron Works, Beloit, Wisconsin, and is 144 inches in diameter with a 132 inch face. It is the heaviest single piece of equipment ever to be installed at KVP.

Foresters To Meet in Atlanta

The thirty-ninth annual meeting of the Association of Southern Agricultural Workers will be held in Atlanta, Ga., on Wednesday, Thursday, and Friday, February 2, 3, and 4, 1938.

The Forestry Section will have a meeting on the afternoon of February 2 which will be devoted to a symposium on recent forestry legislation as it affects the South. On Wednesday evening there will be a dinner and a joint meeting of the five southern sections of the Society of American Foresters. Thursday morning, February 3, will be devoted to the presentation of four papers covering various phases of the pulp and paper industry in the South with ample time for general discussion.

Arrangements are also being made for special group conferences of the southern Extension Foresters, State Foresters, lumbermen, and pulp and paper mill operators.

KVP ERECTS BUILDING TO HOUSE NEW YANKEE PAPER MACHINE

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Rhinelander Paper Co. Installs Glassine and Greaseproof Fourdrinier

The Rhinelander Paper Company recently started its new glassine and greaseproof machine at Rhinelander, Wis. This new machine was installed to take care of the demand for the many new specialties that have developed at Rhinelander.

Equipped With Latest Modern Devices

The new unit is equipped with the latest modern devices for producing uniform quality glassine and greaseproof papers. The new machine—a 125 inch Fourdrinier—is equipped with a 71 foot wire, 30 inch suction couch, and 6 suction boxes, with an A. E. Broughton & Co. system consisting of individual drop legs from each suction box. The press section consists of a Beloit Iron Works dual press and a reverse press. The drier section is equipped with a Feeney felt drying system, Midwest Fulton Engineering Company drainage system, and a Mason Neilan moisture control system. The beater equipment consists of a Shartle Brothers "Tugboat Annie" connected to two rotobeaters which may be operated in series, parallel, or either beater individually.

The beater and machine chests are tile lined and have no agitators, the agitation being supplied by Shartle Brothers low head pumps.

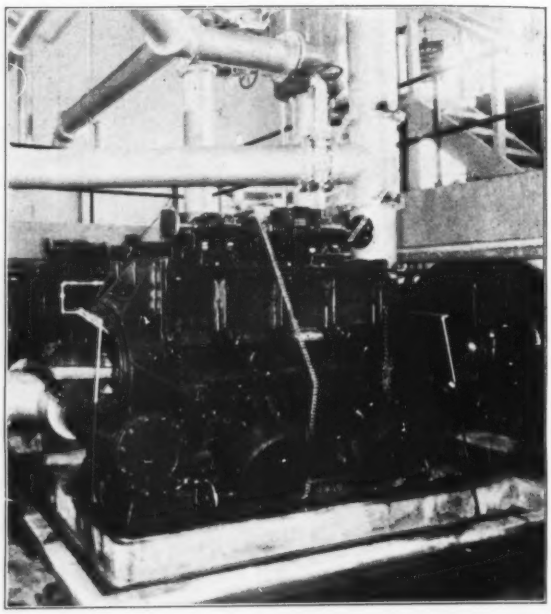
The machine is driven by a single motor Westinghouse paper machine drive with electronic speed regulator.

The new unit will give Rhinelander four machines on glassine and greaseproof and one machine on Yankee specialty papers.

Completing Expansion Program

With the starting of its new paper machine, the Rhinelander Paper Company is completing the major portion of its modernization and expansion program for 1937. Additional capacity has been a necessity for some time due to the favorable reaction of the trade to Rhinelander's specialties, in particular Laminite and Excellent Parchment.

A new building 39 x 262 feet was added on to the present machine room to house the new equipment.

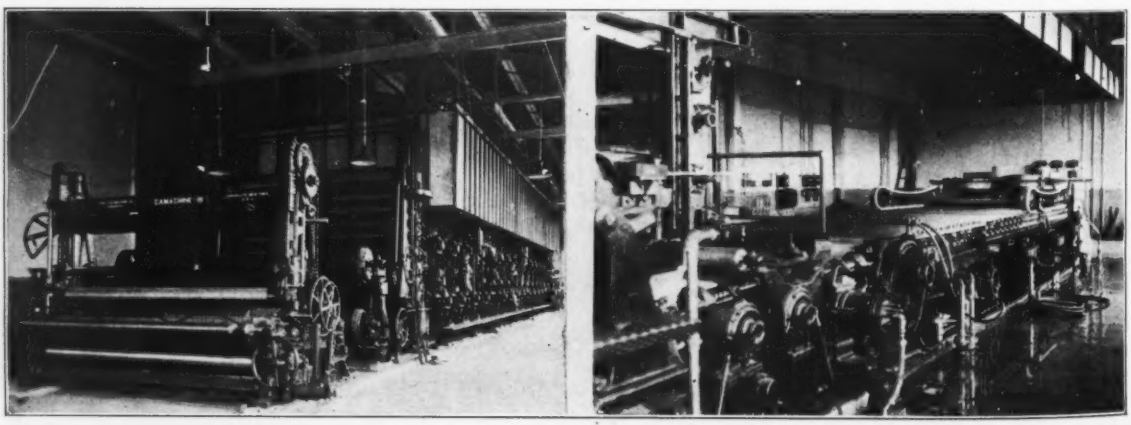


ROTOBEATERS AT RHINELANDER PLANT

The building is of reinforced concrete and brick construction. It was built by C. R. Meyers & Sons Company, of Oshkosh, Wis.

In both the refining equipment and the paper machine, the most modern improvements applicable to glassine were incorporated so that the highest grade papers in the class could be manufactured in conformity with Rhinelander's standard of quality.

Work is being started immediately on new sulphur burning equipment for the acid plant, and a circulating system for No. 2 digester. With the completion of this work, all of the four digesters will be making pulp by the indirect heating and forced circulation cooking method.



END VIEWS OF NEW GLASSINE AND GREASEPROOF FOURDRINIER.

The Southern Development Advances

Projects Multiply Rapidly—Business Shows Gains

By Reginald Trautschold, Engineering Consultant

Since the epoch-making developments recently which established Southern pine as among the world's most important paper-making materials, the Southern movement has advanced with explosivelike suddenness, yet with a consistent carry-through that portends sane and healthy progress. The coastal region—from Virginia, through the Carolinas, around to Texas—is now the scene of unparalleled development in pulp and paper making. There is every assurance, furthermore, that this activity will create much new wealth, by the profitable reclamation of discarded natural resources, even now well under way, and revival and stimulation of business.

At Savannah, Ga., to cite a specific local instance, the first of the three important units of the Union Bag and Paper Corporation has actually doubled the industrial payroll of the city—$2,000,000. being distributed during the year in wages alone. This has been a veritable boon to the commercial establishments of the community, its professional men and recreational centers, as well as to the neighboring farmers.

Based upon known costs for a score or more of the modern mills below the Mason and Dixon line, there is a saving of about 15 per cent, as compared with similar northern costs, in southern building; payrolls at fair and established rates are 20 per cent less; reduction in winter heating requirements more than doubles the saving in annual carrying charges (interest on investment); and pulpwood is procurable at lesser prices than commanded in northern districts.

Wood—Climate—Growth—Supply

The numerous surveys which have been made, by both interested and disinterested parties, place the forest area of the eleven southern states of the costal region at upward of 200,000,0000 acres, of which fully 80 percent are in pine—longleaf or slash. Each of these acres is capable of growing from 1 to 2 cords of pulpwood annually, if the fundamentals of good forestry are practiced—assuring a perpetual, rather than "inexhaustible", supply of raw material for paper making. Virtually every acre, moreover, is readily accessible, by reason of the excellent transportation facilities—highways, railroads and waterways—now existing in the South.

Young and rapidly developing Southern pine forests cover most of the upland areas of this coastal plain, where the favorable climatic conditions assure an annual growing season of from nine to ten months. These trees attain pulpwood size in ten to twenty years or less, whereas Northern spruce requires for like growth forty years or more. In this connection, Austin Cary, United States Forest Service, who has been associated with the pulp and paper industry for some thirty years—hence, knows whereof he speaks—states:

"In the Southern pine belt, the United States is thought to possess the greatest single asset in the way of potential source of coniferous wood and lumber that exists anywhere on the face of the earth. Three feet of yearly growth is not uncommon among the Southern pines, that to compare with half as much for white pine in New England and a foot and less for spruce as it grows in most northern territory, two cords per acre of wood yearly is not infrequently grown. Sixty cords of rough wood at twenty-five years of age, have been personally recorded. At twenty and twenty-five years of age, such lands produce trees of sizes nicely suited to use as pulpwood".

Similarly, the Sixteenth Annual Report of the Southern Forest Experiment Station, in discussing a pulpwood production study, states that pulpwood cut from the tops of second growth pines will average ½ cord of good pulpwood per thousand board feet of saw-logs cut. The yield varies inversely with the size of the tree—the tops of trees over 20-inches in diameter containing little pulpwood; 20-inch trees, 12 percent; 18-inch timber, 16 per cent; 14-inch, 24 per cent; and 12-inch trees running 29 to 30 percent pulpwood. Thinnings and logging waste also provide excellent pulpwood, as evidenced by the experiences of a number of Southern lumber concerns.

One company practicing intensive forest management—*i. e.*, selective cutting and the harvesting of only such trees as leave a properly spaced stand of growing timber behind logging for cutting at intervals of ten or fifteen years—produces 500 cords of pulpwood a month from thinnings and salvage cuttings on shortleaf and loblolly pine areas, and could produce considerably more. Thinnings stands of 18 to 25 years timber yields an average of 4 cords per acre. Moreover, as these thinnings have to be repeated every few years to prove effective in forest conservation, these yields are continuous, until the trees mature to saw-timber size. An average of 2½ cords of pulpwood per acre behind logging is then obtained.

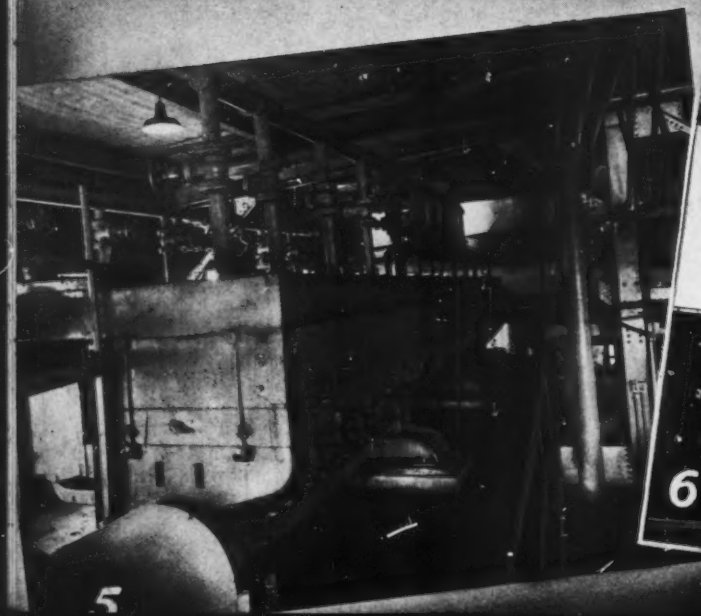
So far as pulp and paper making needs are concerned, then, the Southland can furnish a wood supply in annual growth alone far in excess of the maximum requirements of lumber, paper and other timber consuming industries—no matter what may be the future increase in wood utilization. The pulp and paper interests have acquired and placed under intensive cultivation large holdings of woodlands, assuring their properties of an unfailing supply of pulpwood by planting a tree for every tree cut. What is even more reassuring, since a large proportion of the wood converted into pulp and paper will come from independent landowners and farmers, is that the farsighted paper men have agreed to buy wood only from vendors who abide by established minimum standards of forestry.

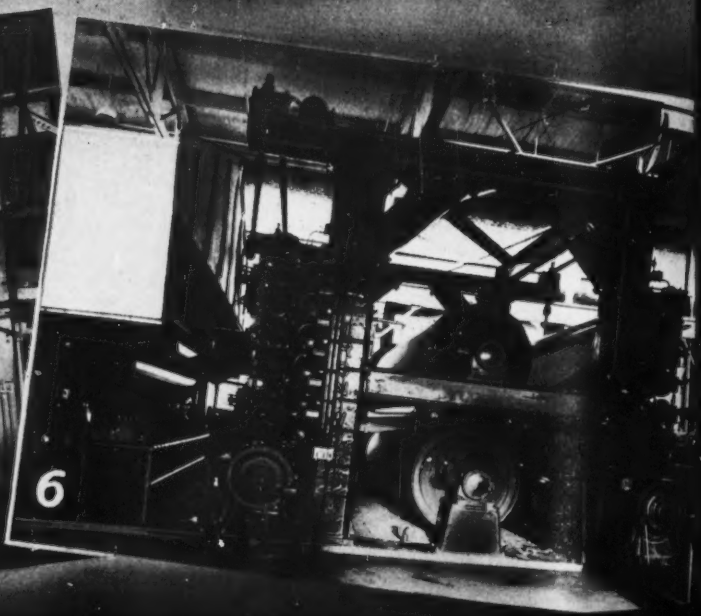
Labor Plentiful

Labor is plentiful, almost entirely of all-American stock, both white and black, and wages fair, the

SOUTHERN KRAFT CORP., GEORGETOWN, S. C.

1. West End of Machinery Room Showing Suction Rolls in Foreground. 2. Machine Room from the Finishing End. 3. Exterior View of Plant. 4. View of Mill Showing Wood Yard in Foreground. 5. View of Screens. 6. Calender Stack.





rate established for the Southern Zone—South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas and Texas—by the Code of Fair Competition for the Paper Industry being 30 cents an hour. The lower living costs of the South and the fact that employment is steady, unburdened by the seasonal climatic limitations common to Northern sections, makes the rate attractive to Northerners accustomed to somewhat higher, but less regular wages.

While an ample supply of reliable and efficient local labor is available at present, the construction and operation of new mills as they go into production will attract and provide employment for many workers trained in Northern mills and drawn to the South by the unfolding opportunities of bettering their conditions. For each man employed in the pulp and paper mills, two are required in the forests, cutting pulpwood to feed the rapacious grinders and digesters—and the wood men have steady work in the South. The logging season is an open one and the mills are not forced to resort to heavy wood storage, with its wastes and heavy capital tie-up, but operate on a continuous inflow of fresh wood.

For the Southern wood vendor, the landowner, pulpwood, hence, is a cash crop, one on which he can collect every day of the year. Consequently, there is—based upon purely selfish reasons alone—little danger of the pulp and paper interests being directly or indirectly chargeable with the havoc and devastation wrought by the unregulated lumber concerns in the great yellow pine forests of a generation ago.

Rail, Truck and Boat

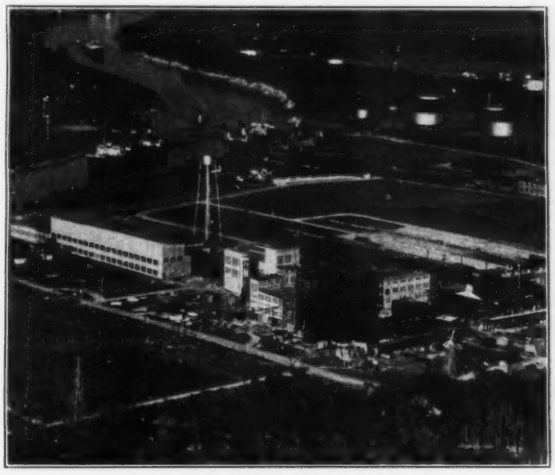
Cutting and transporting the pulp logs to the mills, as well as the shipment of the mills' products, present no difficulties or complications in the South. No special machinery or equipment is required, the cutting and the transportation facilities are excellent, for not only are the woods open the year around—that is, easily accessible—but the logs are carried at low cost by rail, truck and boat. Good roads favor trucking in all sections, well equipped railroads serve every mile of the costal region and the large majority of the pulp and paper mills are located on tidewaters and can ship and receive by boat.

Fully a third of the entire Southern pine belt is served by the Seaboard Air Line Railway System and other of the main rail carriers provide excellent transportation to and from the mills in Mississippi, Louisiana, Arkansas and Texas. Some of the mills operate their own barge fleets and all are situated advantageously so far as essential fuel supplies—chiefly coal and oil—are concerned.

Competition As Yet Avoided

Such in brief is a sketchy outline of the Southern situation at the present time, the situation in the district into which captial was too timid to venture only a few years ago. The saner judgment which now prevails shows, however, that there is no harmful competition—only substantial benefits—from the logical southern development in the pulp and paper industry.

When the sixteen new mills, into which an investment of approximately $100,000,000, is being made, all actually get into production, their entire possible output—every pound—added to that of the nineteen older, active southern mills will not suffice to offset the heavy burden of foreign pulp and paper importation. In 1933, the Department of Commerce reports importations of pulps, etc. totaled to 1,733,744 tons, valued at $57,399,010. The present, almost overnight, expansion in the South adds at most 3,500 tons a day to the paper-making capacity of that section, placing the limit of Southern production, until further large scale developments are made, at 6,500 tons a day. Furthermore, Southern production costs make exportation on a large scale both feasible and profitable.



CHAMPION PAPER & FIBRE CO.

Expansion in Texas

In Texas, the outstanding of the new mills actually to be in commercial production is the bleached sulphate plant of the Champion Paper and Fibre Company,[1] erected on the Houston Ship Channel at Pasadena by the Morton C. Tuttle Company, at a cost of close to $3,500,000. At present, this plant produces only pine pulp for the company's paper mills at Hamilton, Ohio—175 to 200 tons of bleached pulp per day. The mill is so planned, however, that additional equipment can easily be installed, to increase its capacity and to manufacture paper. Turpentine, caustic soda (liquid, solid and flake) and sodium resinate will also be produced locally.

Situated next to the Deepwater Plant of the Houston Lighting and Power Company, this pulp mill secures its steam supply for a 4,000 kilowatt, high-pressure turbine, driving a 168-inch Fourdrinier pulp drier and two wet machines, from this economically operated central station; its gas from a local utility and its water supply of 15,000,000 to 20,000,000 gallons per day from driven wells. Wood—received by truck, rail or barge—is obtained from the pine forests of East and South Texas, a plentiful supply being assured by stumpage contract on close to a million acres in Southeast Texas. The salt supply comes from a near-by thirty-acre salt deposit, and the mill is self-contained in respect to production of chlorine, caustic soda and lime from local raw materials, and includes an electrolytic bleach plant.

The site of the mill is particularly advantageous, as the company's own barges are loaded at Pasadena and travel to the finishing plant at Hamilton, Ohio, and to all points in the Middle West, via the Intracoastal and Mississippi waterways. Access to

[1] For detailed description of mill see PAPER TRADE JOURNAL, March 25, 1937.

sea-going vessels for shipment abroad is also provided, as well as direct connections to the several trunk lines serving Houston.

Overshadowing this well planned and successful Texan development in interest at the moment, however, is the projected plant of Southland Paper Mills, Inc., to be erected shortly at Lufkin. This mill will cost about $5,000,000 and the first to be devoted to the utilization of Southern woods in the production of newsprint on a commercial scale. It may be, consequently, an epoch making development.

The venture has the interested support of an influential Southern group, as well as the backing of the Perkins-Goodwin Company of New York, which organization will also take a prominent part in the management of the mill. In support of home industry, the Texas Newspapers' Association at Galveston, Tex., has subscribed heavily to the company's stock, and most of the mill's planned annual output of newsprint will be used for the dailies of members of that organization.

Still another development in Texas entailing a seven figure investment is the modernizing of the kraft paper mill of the Orange Pulp and Paper Company at Orange. A sulphate pulp mill is being erected at a cost of $1,000,000. with a capacity of 75 tons a day.

Development in Louisiana

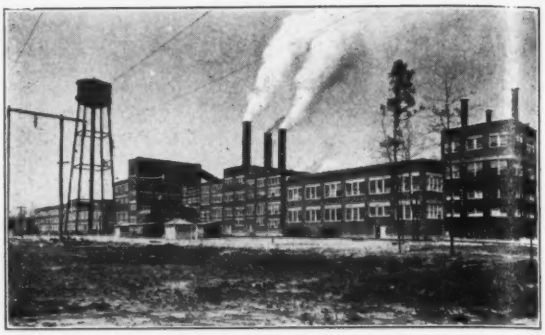
Activity centers in Louisiana around a great $6,000,000 kraft paper and board producing plant being rushed to completion at Springhill—about 50 miles north of Shreveport—for the Southern Kraft Corporation. This development, which may eventually entail an investment of as much as $12,000,000, is one of the largest, if not the largest, going forward in the south at the present time and is of outstanding interest in several respects.

The present plans call for a sulphate pulp mill capacity of between 600 and 700 tons per day, the output of which will be used in the manufacture of kraft paper, board and allied products and by-products. In addition, a rayon pulp mill, designed for a daily capacity of some 100 tons of bleached sulphate fiber, is being constructed to meet the pressing and ever growing requirements of the rayon industry. Heretofore, the rayon mills have drawn for their supplies of highly refined pulp from a few northern mills specializing in so-termed "dissolving pulps" produced by the sulphite process or from foreign sources, so this development may have far reaching effects upon two large industries—pulp making and the manufacture of rayon filaments for textiles.

So rapidly has the erection of this great plant progressed that it is said that at times the concrete pourers were literally only feet behind dragline shovel operators and pattern builders and brick layers stood with brick and trowel in hand waiting for foundations to set. As a result, it is expected that the rayon pulp mill will be completed early in the autumn of 1938. The contract for the great kraft paper and board mill (pulp and paper), which will provide employment for 2,500 to 4,000 people, calls for the completion and starting-up of the plant, likewise, in 1938.

A modern $1,500,000 salt cake plant is also planned for either Northern Louisiana or Southern Arkansas,

[2] For detailed description of mill, see PAPER TRADE JOURNAL, June 3, 1937.



CROSSETT PAPER MILLS

with a capacity sufficient to supply the needs of four times the number of neighboring paper mills. This project has been definitely approved and will mean much to the Arkansas-Louisiana-Texas region. Another of the projected developments in the same district is the construction of an immense lime plant, to avoid the necessity of hauling this essential supply from Northern Arkansas and more distant points.

Arkansas Lumber Interests Cooperate

In Arkansas, the Crossett Lumber Company has taken an important step in the advance of the Southern movement, by erecting at Crossett a modern pulp and paper mill[2] to utilize more efficiently its extensive timber holdings. Systematic reforestation, started forty years ago, provides this farsighted organization with adequate wood supplies for its various activities and is typical of the sound policies in business expansion and conservation of resources developed and adhered to over this two-score year period.

The mill, built and equipped with its efficient, modern machinery arranged for a straight-line flow of materials by the Rust Engineering Company, entailed an investment of some $4,000,000 and readily lends itself to further expansion. It is strictly up-to-date and well appointed throughout, as are also the accommodations it was found necessary to provide for the operatives and mill employees. In all 200 modern, comfortable residences were erected, 125 homes for the white population and 75 for the colored people. Separate schools were built for the white and the colored children of the community, several churches, a golf club and other recreational centers.

Florida Attracts Several Mills

The coming of the pulp and paper industry to Florida has already benefitted that state to a marked extent, although as yet not one of the four large and important new mills is in actual production. At Port St. Joe, on the Gulf, a new hive of industrial activity is rapidly arising on the site of old, ill-fated St. Joseph. At Fernandina, the second oldest settlement in the country, the town is no longer a disintegrating ruin of former grandeur, but has taken on a fresh lease of bustling life. At Jacksonville, the modern metropolis of the state, an important new line has been added to the diversified activities of the community, placing more money in circulation and adding much to the industrial wealth of the city.

St. Joseph, a flourishing town of 5,000 to 10,000 population in the thirties of the last century and an important shipping center for cotton and lumber,

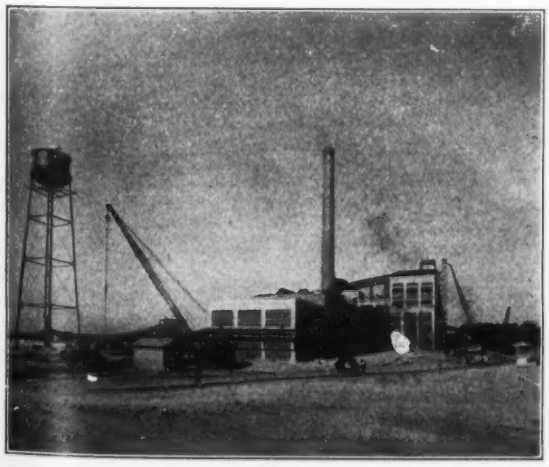
was depopulated by yellow fever in 1840-1841. Three years later, a hurricane and tidal wave in three short days reduced the town buildings and dwellings to crumbled ruins. Even the masonary debris disappeared, washed to sea, or, as is believed in the vicinity, carted off for use in the erection of dwellings in Northwest Florida.

Through this combination of circumstances, the present site of Port St. Joe was only two or three years ago a barren waste, with only a handful of scattered dwellings. Today it is a busy industrial community, exceeding in population the old town of St. Joseph in its palmiest days. While as yet the town is a conglomeration of modern buildings and dilapidated shacks, daily, civic and commercial improvements are to be noted—all on account of the $7,500,000. St. Joe Paper Company sulphate pulp and paper mill unit which will go into productive operation about January 1, giving employment to about 1,000 in the mill and 2,500 in the woods.

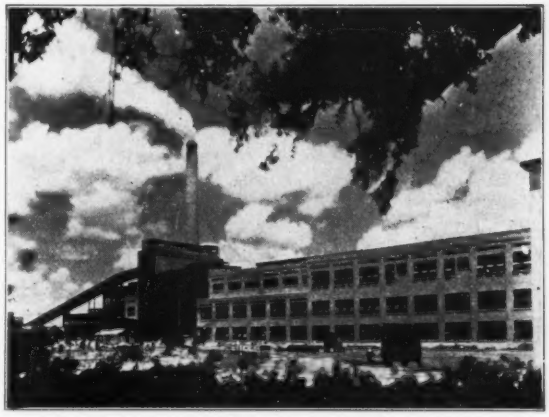
This mill, which is being built by James E. Stewart & Company, will make wrapping, bag and coarse brown papers, the pine for which will come from a half million acre tract in northwest Florida held by the Gulf Coast Properties; and will be followed by other units in a great $20,000,000, development project. The manufacture of newsprint, for which provisions are being made in the first unit, may be undertaken and there is liklihood of a rayon mill being built and also a chemical plant. Port St. Joe and neighboring Panama City certainly seem headed toward recognition as the great Southern paper making center visualized by the late Alfred I. duPont.

Strong competition for this distinction will come, however, from Fernandina, where there is also feverish activity in efforts to have the two important pulp mills being erected there in actual production before the end of the year, or soon thereafter. Fernandina is repaving its streets, constructing new and broader roads, capable of handling more traffic, and rushing other town improvements for the day when the payrolls of the many brought to the town by the opening of the two mills will revive local business and reestablish the prestige of the ancient city.

The first of these new plants to incite this sudden and welcome activity on the part of the city by breaking ground was the sulphate mill for the Kraft



KRAFT CORP. OF AMERICA



UNION BAG & PAPER CORP.

Corporation of America. This mill is nearing completion at the north end of the island town, where its towering 250-foot brick stack dominates the landscape. The plant represents an investment of close onto $3,000,000. and, furnished with one large wet machine and two great digesters, will turn out 150 tons of sulphate pulp each day.

The other mill instrumental in arousing Fernandina is of especial interest just now, for it will be the first plant to manufacture bleached pulp from Southern woods on a commercial scale by the sulphite process. It is being put up at the south of the town by the Rust Engineering Company for the Fernandina Pulp and Paper Company—a subsidiary of the Rainier Pulp and Paper Company of the Pacific Coast. This new mill, entailing an investment of $6,000,000. will produce 180 tons a day of the highly refined pulp required in the manufacture of rayon, cellophane, staple fiber and other quality cellulose products.

Still another important development is taking place in Florida, at Jacksonville, where a large modern kraft liner and sulphate mill is rapidly nearing completion on the old property of the American Agricultural Chemical Company, just a few miles from the center of the town. This mill, being erected by the Merritt-Chapman & Scott Corporation for the National Container Corporation, faces the St. Johns River and is advantageously situated for direct ocean shipment, as well as for freight consignments over trunk line rails. It will have an output of some 200 tons of kraft daily and will consume, it is estimated, about 120,000 cords of local wood per year—wood from the 3,500,000 acres of woodland within 50 miles of Jacksonville, where there are now said to stand 10,000,000. cords of wood suitable for the manufacture of pulp. Incidentally, 550,000 acres of this forest are now under ably directed fire protection.

On the completion of this plant, early in 1938, or even before, employment will be extended to about 700 in the mills and to 1,000 or more in the woodlands. The annual wages of these workers, together with the expenses for local supplies and services will run, it is figured, close to $2,000,000, most of which will reach the tills of the local tradesmen.

Developments in Alabama

Activity in Alabama centers chiefly about the plans of Hollingsworth & Whitney Company for the erec-

tion near Mobile of a mill, regarding which no details have officially been made public as yet.

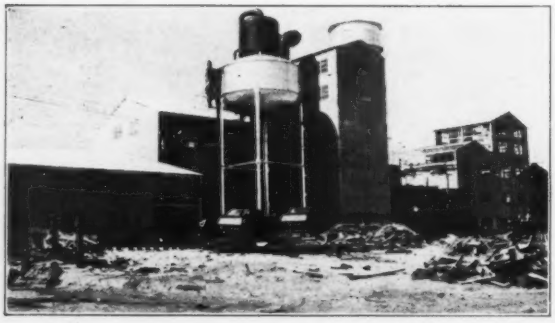
Georgia Advances on Accomplishments

The outstanding success with which the first unit[3] of the Union Bag and Paper Corporation's comprehensive development program at Savannah, Ga., has functioned, duplicated by the results secured with the second and third unit—described elsewhere in these columns—has been responsible for the rapidity with which the third unit, which brings the capacity of the Savannah plant up to 500 or 600 tons of pulp and paper a day, is being pressed into regular production. This high output will incidentally necessitate the consumption of 800 to 1,000 cords of pulpwood a day at Savannah, but the timberlands within economical truck-haulage support an annual replacement growth of many millions of cords. Under present day forestry practice, great as are the mill's demands, they cannot commence to absorb even the necessary trimmings for the maintenance of healthy woodlands.

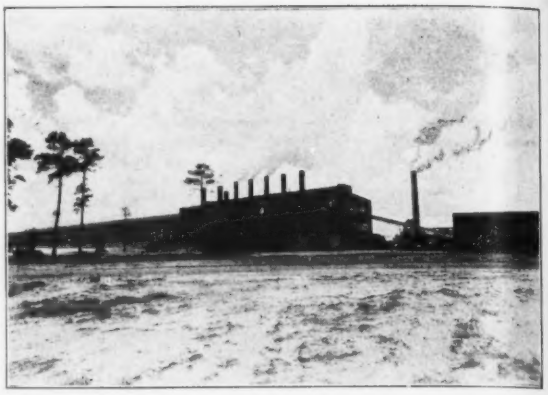
A tour of the extensive plant—from the great barking drums and chippers at the northwest corner of the mill site, under the four giant lime kilns; then to the caustic room, chemical recovery chamber, digester room with its cooling tanks and separators; past the numerous Jordans into the machine room where the kraft paper is formed on a 234-inch Fourdrinier and then dried as wrapping paper or for stock for subsequent conversion into paper bags, at the rate of 12,000,000 a day—is truly awe inspiring. Provisions are even made in the bag factory for printing the bags directly on the bag-making machines.

At Brunswick near the coast, the Brunswick Pulp and Paper Company's new plant, started last December, is rapidly being finished and should be in production by January. The mill is located on the Turtle River a few miles from both the city proper and the ocean, so has exceptionally fine shipping facilities for ocean going steamers and excellent rail connections for direct western shipment. As the output of the $3,000,000. plant—built by the Stone & Webster Engineering Corporation—will be taken by the Mead Corporation of Chillicothe, Ohio, and the Scott Paper Company of Chester, Pa. of which two organizations the Brunswick Pulp and Paper Company is a subsidiary, pulpwood from the forests of Southern Georgia will be brought into the Brunswick plant, made into bleached sulphate pulp and then

[3] For description of first unit see PAPER TRADE JOURNAL, Oct. 29, 1936.



BRUNSWICK PULP & PAPER CO.



SOUTHERN KRAFT CORP., GEORGETOWN

forwarded by boat or rail to these other mills, for the manufacture of paper and tissues. This inter-company business is to be conducted on a cost plus basis and the economic advantage of Southern pulp making are such that the pulp can be delivered at Chester and Chillicothe at a price so much below the spot prices for similar grades of pulp in these centers that the holding mills, as well as the Chester plant, should prosper.

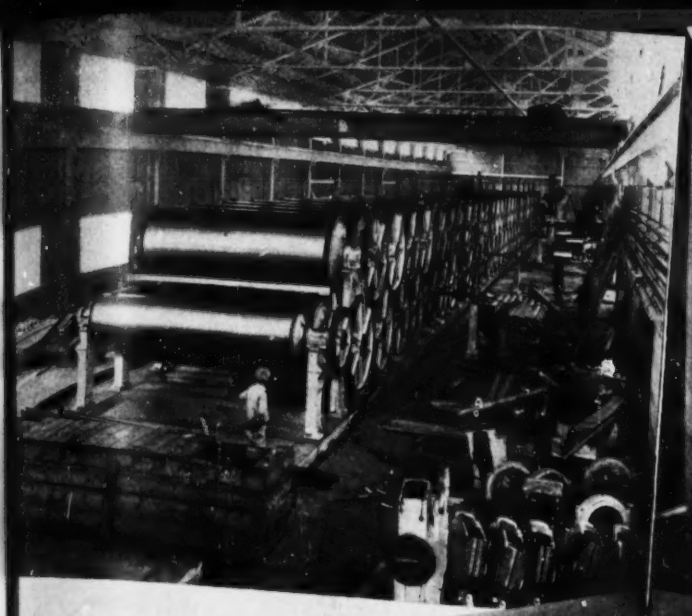
The output of the Brunswick mill, when in full production, will be 150 tons a day, half of which will be shipped to the Scott Paper Company and used chiefly in the manufacture of towels. Subsequently, since the pulp shipped to this paper mill will not suffice to cover more than about 30 per cent of the mill's raw material requirements, a second pulp mill unit is planned for the Southern Atlantic coast.

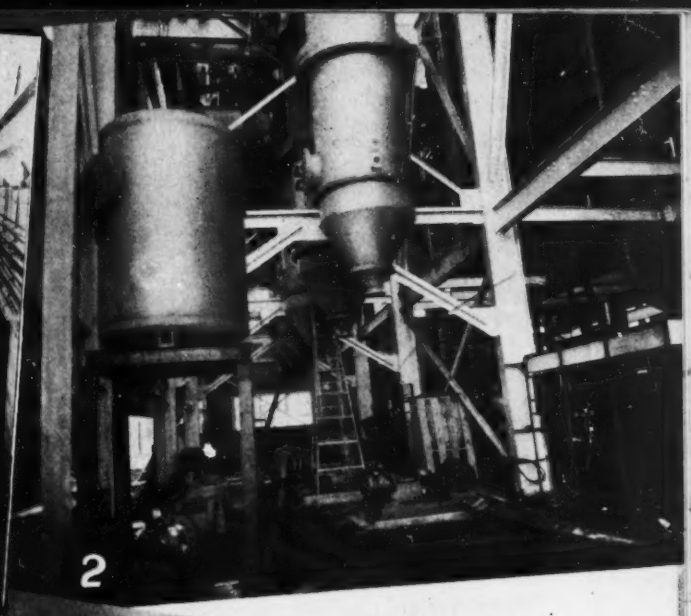
South Carolina's Two New Mills

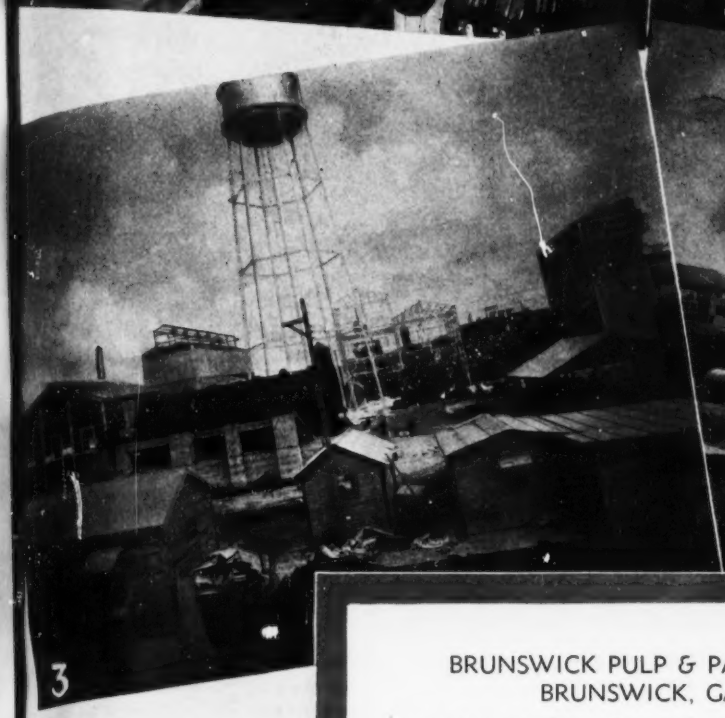
In South Carolina, two outstanding new mills are today shipping and well justifying their erection—the Charleston Mill of the West Virginia Pulp and Paper Company,[4] erected by the Morton C. Tuttle Company, and that of the Southern Kraft Corporation on the Sanpit River, near Georgetown, built by Southern Kraft's own well trained and experienced organization in the record time of eight months. Ground was broken in mid-October of last year for the latter plant and the mill actually commenced to

[4] For description of mill, see PAPER TRADE JOURNAL, August 5, 1937.

WEST VIRGINIA PULP & PAPER CO.

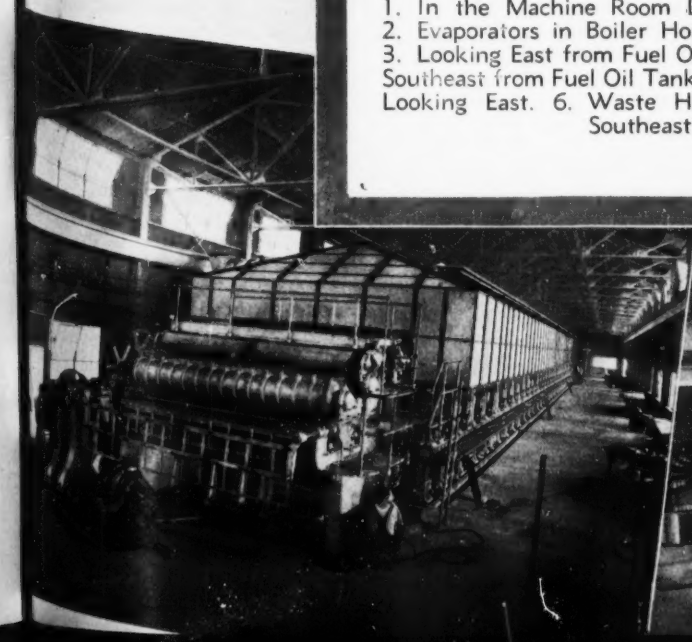


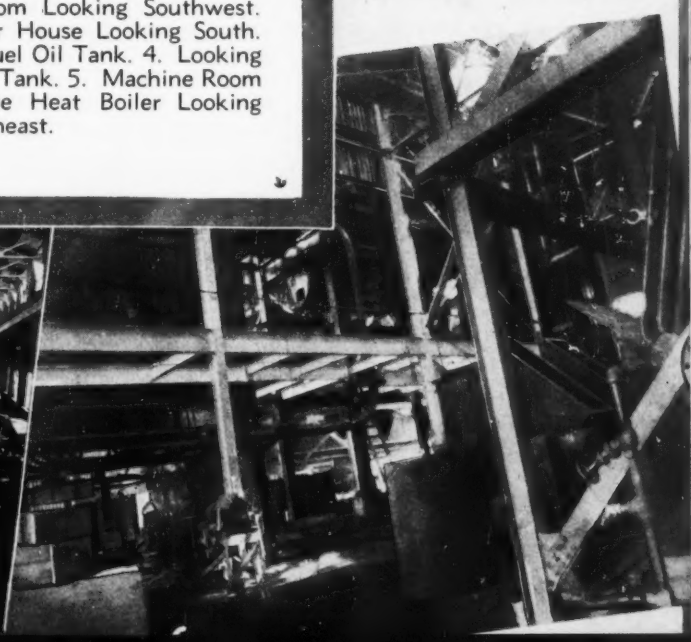




BRUNSWICK PULP & PAPER CO.,
BRUNSWICK, GA.

1. In the Machine Room Looking Southwest. 2. Evaporators in Boiler House Looking South. 3. Looking East from Fuel Oil Tank. 4. Looking Southeast from Fuel Oil Tank. 5. Machine Room Looking East. 6. Waste Heat Boiler Looking Southeast.





turn out pulp, paper and board in mid-June of this year.

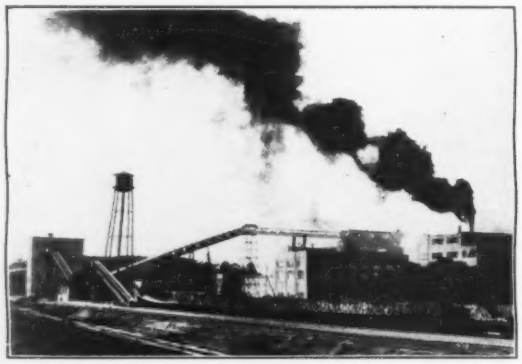
As the Charleston installation has already been covered rather fully in these columns and there is really little to add beyond stating that the plant has well lived up to expectations, a few side remarks confined to the more important features of the Georgetown mill are alone needed to complete the portrayal of the important part played by South Carolina in the Southern Movement.

In the first place, the Georgetown plant comprises five key buildings and a number of smaller structures, all of concrete, brick and steel construction, supported on sturdy piles and covering a building area of approximately a quarter of a million square feet. It is one of the largest kraft pulp, paper and board mills in the world and has a rated capacity of 625 tons a day.

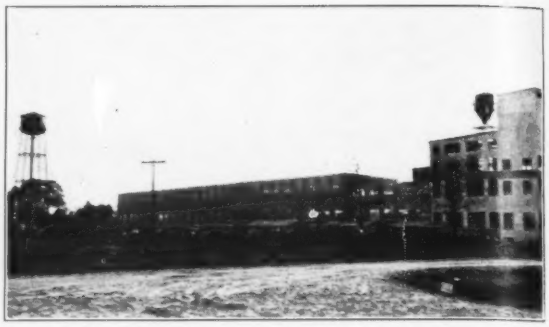
Throughout, this plant is equipped with as high a class of equipment as is procurable today, and a list of the machines installed, their makers, etc. constitutes a veritable page of Who's Who and What in essential mill furnishings. Much advance is to be noted in many equipment units and a number of record duties are discharged in daily mill operation. For example, the plant condensing the blow-steam from 120 cooks a day, three blows at a time, is the largest of its kind in the world. Actually, 17,000 pounds of steam are taken by each of the ten installed digesters for a complete cook.

Some startling accomplishments were also performed along plant construction lines, as in the laying of nearly ten miles of 2-foot lined and coated, welded iron pipe, weighing approximately 60 pounds per foot, three of which miles were through a heavy treacherous swamp. This feat was performed with no other equipment than a few "A" frames, hand wrenches, a small drag-line for digging, a little "Caterpillar" back-filler, 1000 feet of narrow gauge track for hand cars, a jib crane for unloading the pipe from the cars, and several motor trucks.

The pipe, being of the relatively light spiral-welded variety, was laid in 49-foot sections, each weighing about 3,000 pounds, and joined by flexible couplings. In laying the pipe over the three mile swamp section, the sections of pipe were plugged with wooden blocks and then floated to location in the open, water-filled trenches. These blocks were knocked out as the couplings were bolted and the inrushing water sank the pipe to the bottom of the prepared trench—an operation made possible only by the use of the flexible pipe connection.



NORTH CAROLINA PULP CO.



CHESAPEAKE-CAMP CORP.

The 14-bolt couplings used required only a small hand wrench to draw-up the pipe and so effectively was this done that on a 350-pound leakage test it was found that the line was tight with the sole exception of three small leaks at the flanges of three valve installations. Almost 3,000 feet of pipe was placed and connected on certain days and the whole job was completed in seventy days by a foreman with seven unskilled helpers, two men for tightening the couplings and a third for coating the couplings—a crew, in all, of eleven men.

North Carolina's Contribution

In North Carolina, the new plant of the Kieckhefer Container Company at Plymouth — to be known in future as the North Carolina Pulp Company—shipped pulp a few weeks ago. This mill, with excellent water shipping facilities and served by both the Seaboard Air Line and Norfolk Southern Railroad, was erected in record time by James Stewart Company. It is equipped with six digesters and three 120-inch wet machines—capacity 300 tons of sulphate fiber per day.

As yet, the mill, which becomes an important unit in the Kieckhefer group—Kieckhefer Container Company, Rockford Fiber Container Company, the Eddy Paper Corporation—of fiber, corrugated container and pulp board manufacturers, Delair, N. J., is untested. It gives promise, however, of being one of the outstanding developments of the year in the marked Southern movement. It will give employment to some 350 men at the plant and to perhaps twice as many in the neighboring woodlands, harvesting the 450 cords of pulpwood needed to keep the mill running to capacity.

Another sulphate pulp mill, with a planned capacity of 125 tons per day, is to be erected near Wilmington, N. C., by the Riegel Paper Corporation, which organization thus joins the Southern movement —well qualified to do so by its able operation of its four New Jersey mills. This expansion, it is estimated, will involve an investment of somewhat over $1,500,000. and provide employment in the new mill for several hundred persons.

Virginia Adds Another Mill

Virginia, likewise, takes a more prominent part in the southern movement by starting up another new, well-appointed, sulphate pulp and paper mill near Franklin—that of the Chesapeake-Camp Corporation. This large, 160 ton per day, plant, which also

was erected by the Rust Engineering Company, has involved the expenditure of $3,500,000 or more and marks a highly important development in the northern section of the southern pine belt, in which both the Chesapeake Corporation, West Point, and the Albermarle Paper Manufacturing Company, Richmond are interested.

A 210-inch Fourdrinier has been installed to produce board to 198 inches in width and paper to 196 inches and the pulp mill is equipped with a wet machine and three digesters, giving a per day capacity of 165 tons of sulphate fiber. Incidentally, the finishing room is close to 450 feet in length, by 75 feet in width, and a 250-foot concrete stack stands out as a landmark visible for miles.

The Future

Viewing these several developments in the light of the industry's best interests—developments which taken together mark decided acceleration in the southern movement—the present situation is highly encouraging. In the first place, the Southern movement has not—nor is there any need that it should in the future—jeopardized or influenced adversely the industry's heavy investments in other sections of the country. On the contrary, the sane guidance displayed in the movement can be counted upon to be productive of results highly beneficial to the entire country.

Paper Making in the South

Large and well appointed paper mills as well as pulp mills are going up in the South—as yet, chiefly kraft and board plants for the requirements of which Southern pulp is well suited—and this activity is momentous. Time will be required, however, to demonstrate whether it pays better to produce pulp in the South and convert it into paper products in existing mills situated in other sections or to centralize gradually both pulp and paper making in the South, by deflecting expansion and new paper mill construction to the great coastal pine belt extending through eleven of the Southern states.

Which way leads to better returns will depend largely upon developments during the next few years—upon the success met in the utilization of Southern woods in newsprint production. Experimentally by Dr. C. H. Herty and on a limited commercial scale by some of the large paper mills, the manufacture of newsprint from this plentiful national resource—first from slash pine and more recently from ground gumwood and other of the semi-hard trees covering almost as large an area of the South, by deflecting expansion and new paper mill ble, economical and a sound business venture.

If the great newsprint division of the industry does gain a foothold in the South, as is indicated by every sign, the Southern movement will become in effect an irresistible rush southward, which nothing can stop.

The textile industry, which even outranks that of paper making in value of product, will throw its powerful influence behind the Southern movement, for not only are its chief cotton mills now located in the south, but its larger rayon mills as well. These latter plants are important consumers of highly refined pulp, in which at least one of the new Southern pulp mills will specialize, the supply of which has been unable to keep up with the demand for rayon—the manufacture of rayon continuing to be, as it was through the depression years, the fastest growing industry in the world. The production of this cellulose product will exceed in 1938, it is estimated, 600,000,000 pounds.

Also, there are important pulp demands for making Cellophane and many of the plastics which are all pulling for the South.

Prospects Bright

The prospects for even greater activity in the Southland—in the building of profit-earning pulp and paper mills by both the older leaders in the industry, seeking new and enlarged sources of pulp obtainable at a fair price, and by newcomers attracted by the far better opportunities afforded for sound industrial investment—are, consequently, exceedingly bright. Not only are they bright, but the experience gained by builders of pulp and paper making plants during the past three or four years will prove invaluable in future ventures.

Splendid Working Organizations

Splendid working organizations of trained engineers have been built-up, well qualified to guide, supervise and plan; contractors and builders have by their accomplishments become expert in a somewhat specialized line; and today there is a veritable "blue book" of approved machinery and equipment for mill and power plant—units of well demonstrated merit—from which the executive responsible for plant investment and furnishings can select his needs with confidence.

Modernizes Bogalusa Mill

The Gaylord Container Corporation during the year of 1937 has concentrated its efforts on improvements in the pulp mill at its plant at Bogalusa, La., with the desire to increase efficiency and bring about more economical operation. In order to do this, it was found necessary to carry on an extensive program of modernization in the pulp washing department, evaporating equipment, recovery of chemicals, lime reburning and continuous re-causticizing:

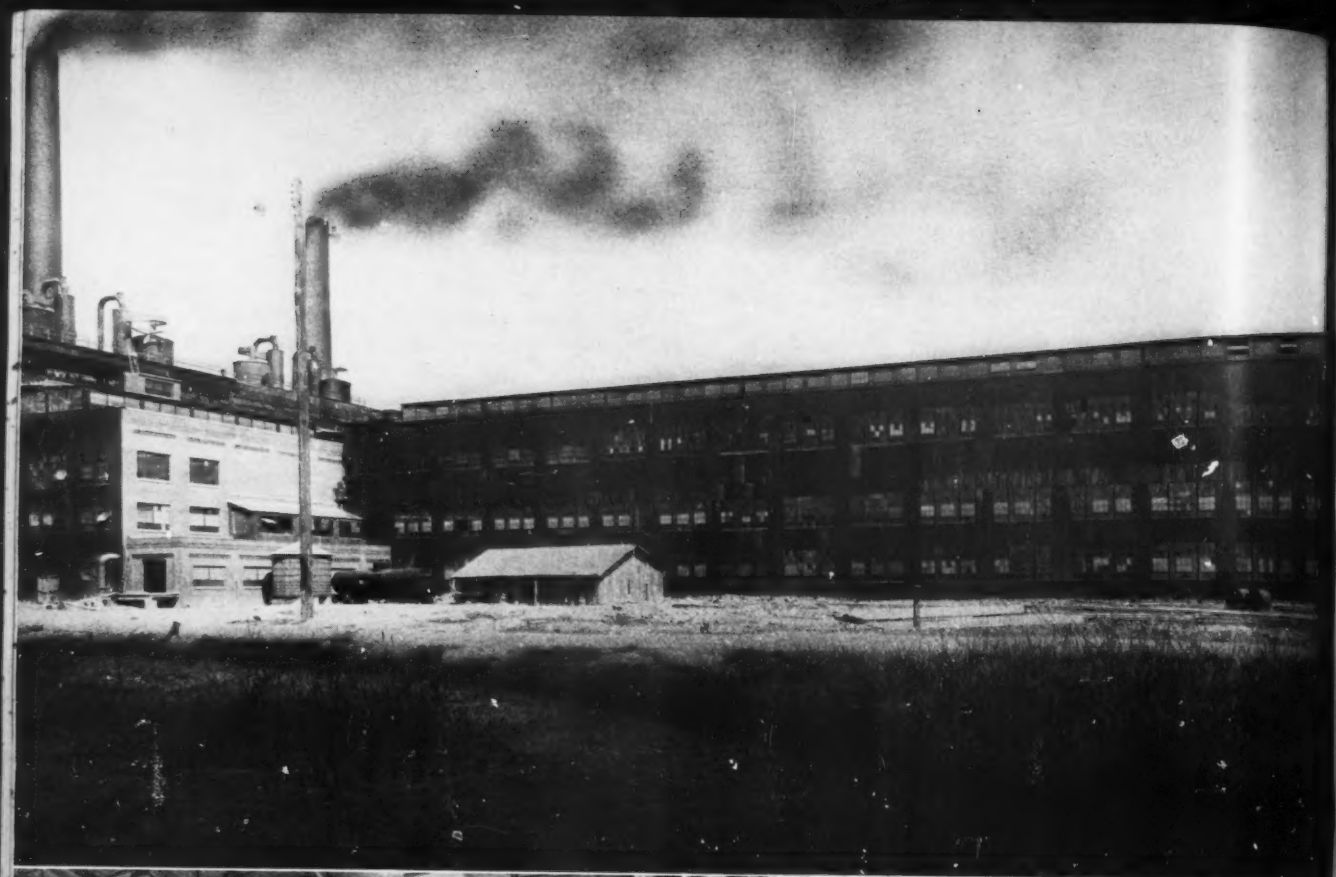
In the pulp washing department it has at present two batteries of diffusers with a total of 20 units, and are now beginning the construction of another battery of fourteen diffusers.

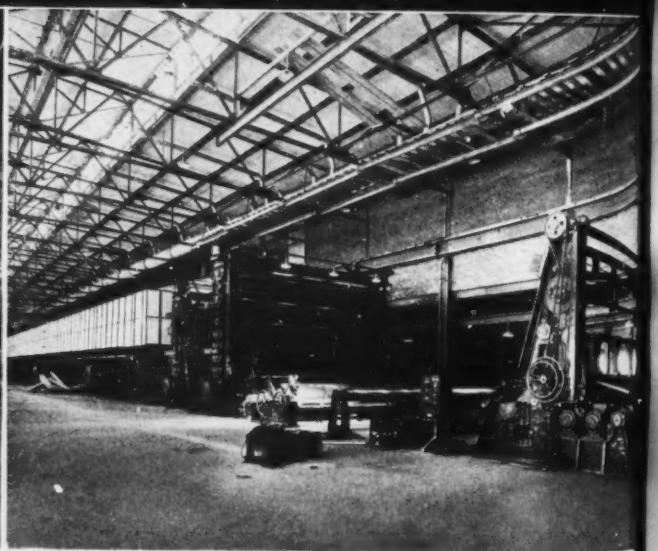
The company has recently put in operation the latest quintuple effect evaporating system which was purchased from Swenson Evaporator Company. The operation of this system has proved to be very satisfactory, producing a marked improvement over the units which had been in use prior to the installation of this new equipment.

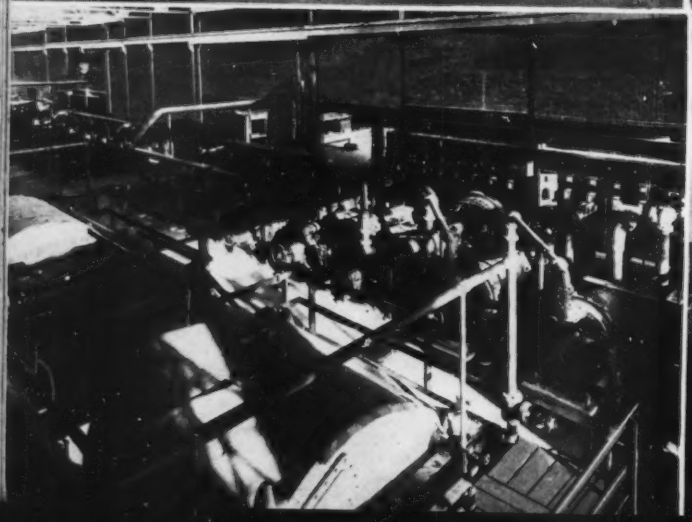
About a month ago the company began the operation of its first B & W Tomlinson recovery and waste heat boiler.

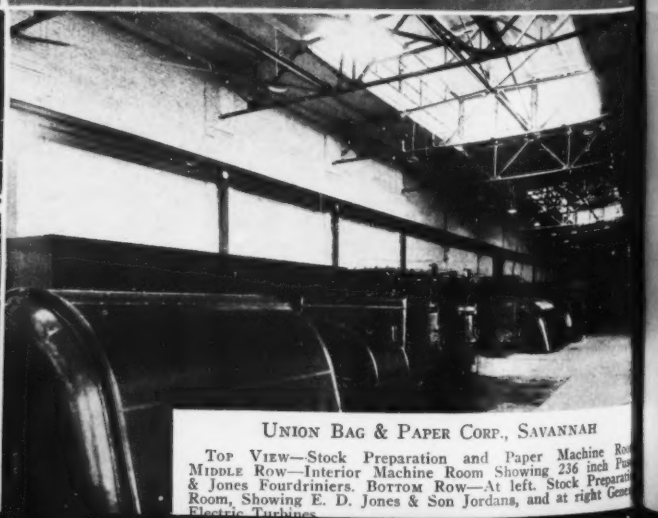
The second unit began operation the week of October 25. Since installing these new units, the equipment now consists of two B & W furnaces, one Goodell, two Wagners and five of the old Rotary burners. The old rotary burners will be scrapped.

The company is installing a continuous re-causticizing system manufactured by Swenson Evaporator Company and expects to have this equipment in operation almost immediately. A new kiln was included in the system so that more lime could be recovered.









Union Bag & Paper Corp., Savannah

Top View—Stock Preparation and Paper Machine Ro
Middle Row—Interior Machine Room Showing 236 inch Pa
& Jones Fourdriniers. Bottom Row—At left. Stock Preparati
Room, Showing E. D. Jones & Son Jordans, and at right Gene
Electric Turbines

NORTH CAROLINA PULP COMPANY

PLYMOUTH, NORTH CAROLINA

Excavation Commenced March 10, 1937

First pulp produced October 8, 1937

JAMES STEWART & COMPANY

CONTRACTORS

230 PARK AVENUE NEW YORK

IMPROVED PAPER

NASHUA,

ROTARY AND FLAT SCREEN KNOTTERS • CENTRIFUGAL SCREENS • FLAT SCREENS WITH DUNBAR DRIVE (METAL AND CYPRESS VATS) • VACUUM FILTERS, INCLUDING SAVE-ALLS • WASHERS • HIGH DENSITY THICK-

for 'IMPCO' Machinery

at **FRANKLIN** • **Chesapeake-Camp Corporation**
2 Knotters • 4 "IMPCO" Design #4 Centrifugal Screens • 1 Vacuum Thickener
1 Vacuum Save-all • 1 Vacuum Lime Sludge Filter

at **PLYMOUTH** • **Kieckhefer Container Corp.**
4 Knotters • 6 "IMPCO" Design #4 Centrifugal Screens • 2 Vacuum Lime Sludge Filters

at **CHARLESTON** • **West Virginia Pulp & Paper Co.**
4 Knotters • 6 "IMPCO" Design #4 Centrifugal Screens • 2 High Density Vacuum Thickeners • 3 Vacuum Lime Sludge Filters • 1 Three-Roll Hydraulic Wet Machine with vacuum high density thickening • 1 Refiner Thickener

at **SAVANNAH** • **Union Bag & Paper Corporation**
8 Knotters • 12 "IMPCO" Design #4 Centrifugal Screens • 6 Vacuum Thickeners • 1 Thickener • 1 Three-Roll Hydraulic Wet Machine with vacuum high density thickening cylinder • 5 Flat Screens—Cast Iron vats—Dunbar Drives

at **BRUNSWICK** • **Brunswick Pulp & Paper Co.**
24 Flat Screens • Bronze Vats • Dunbar Drives

at **FERNANDINA** • **Kraft Corporation of America**
3 Knotters • 4 "IMPCO" Design #4 Centrifugal Screens • 2 Vacuum Thickeners
1 Slusher
• **Fernandina Pulp & Paper Co.**
2 Rubber Covered Ka2 SMO Vacuum Thickeners • 3 Rubber Covered Vacuum Washers • 1 Two-Roll Wet Machine

at **JACKSONVILLE** • **National Container Corp.**
3 "IMPCO" Design #4 Centrifugal Screens • 1 Vacuum Decker • 3 Vacuum Washers

at **CROSSETT** • **Crossett Paper Mills**
4 Knotters • 6 "IMPCO" Design #4 Centrifugal Screens • 2 Vacuum Thickeners

at **HOUSTON** • **Champion Paper & Fibre Company**
3 Knotters • 2 Double Valve Vacuum Thickeners • 1 Rubber Covered Vacuum Washer • 1 Vacuum Thickener • 1 Vacuum Washer • 35 Flat Screens Bronze Vats • Bleaching Equipment • Dunbar Drive

MACHINERY CORPORATION
NEW HAMPSHIRE

MULTIPLE STAGE COUNTER-CURRENT PAPER STOCK WASHERS • DECKERS • WET MACHINES, INCLUDING HYDRAULIC WITH HIGH DENSITY VACUUM WET END • THORNE BLEACHING EQUIPMENT • PNEUMATIC

ROTARY AND FLAT SCREEN KNOTTERS • CENTRIFUGAL SCREENS • FLAT SCREENS WITH DUNBAR DRIVE (METAL AND CYPRESS VATS) • VACUUM FILTERS, INCLUDING SAVE-ALLS • WASHERS • HIGH DENSITY THICKENERS • LIME SLUDGE FILTERS • BLACK LIQUOR WASHERS • FORMING CYLINDERS

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	**Brunswick Pulp & Paper Co., Brunswick, Ga.** O. C. Schoenwerk, Engr.; Stone & Webster, Builders; Bleached Sulphate Pulp; 150 Tons Daily.	**Champion Paper & Fibre Co., Pasadena, Tex.** J. E. Sirrine & Co., Engr.; Morton C. Tuttle Co., Builders; Bleached Sulphate Pulp; 200 Tons Daily.	**Chesapeake-Camp Corp., Franklin, Va.** J. E. Sirrine & Co., Engr.; Rust Engr. Co., Builders; Sulphate Pulp and Kraft Paper and Board; 150 Tons Daily.	**Crossett Paper Mills, Crossett, Ark.** Hardy S. Ferguson, Engr.; Merritt, Chapman & Scott, Builders; Sulphate Pulp and Kraft Paper; 200 Tons Daily.
AFTER COOLERS				
AGITATORS		Noble & Wood Machine Co.	MidWest-Fulton Machine Co.	
AIR COMPRESSORS			Allis-Chalmers Mfg. Co.	Ingersoll-Rand Co.
AIR CONDITIONING	J. O. Ross Engineering			
AMMETERS				
ASBESTOS				
AUTO CALL SYSTEMS				
BARKING DRUMS	D. J. Murray Mfg. Co.	D. J. Murray Mfg. Co.	Fibre Making Processes	D. J. Murray Mfg. Co.
BAROMETERS				
BEARINGS				SKF Industries
BEATERS				Appleton Machine Co.
BELTS				
BLEACHING PLANTS	Pulp Bleaching Corp.	Improved Paper Machinery		
BOILERS	Babcock & Wilcox Co.	Combustion Engineering Co. Henry Vogt Co.	Babcock & Wilcox Co. M. A. Hofft Co.	Babcock & Wilcox Co.
BRICK—Building			Grant Brick Works	
BRICK—Glass				
BROKE BEATERS			Dilts Machine Works	Dilts Machine Works
CABLES				
CALENDER STACKS				Farrel-Birmingham Co.
CALENDERS				
CAUSTICIZING EQUIPMENT	Dorr Co.	Dorr Co.		International Filter Co. of Chicago
CHIP SCREENS			Orville Simpson Co.	
CHIPPERS	D. J. Murray Mfg. Co.	D. J. Murray Mfg. Co.	Fibre Making Processes	D. J. Murray Mfg. Co.
CHUTES				
CLARIFICATION EQUIPMENT				
COMBUSTION CONTROL INSTRUMENTS				
CONCRETE	Wack & Co.			
CONDENSATE SYSTEMS				MidWest-Fulton Machine Co.
CONDENSER PLANTS	Fibre Making Processes			
CONDENSERS	C. H. Wheeler Mfg. Co.		C. H. Wheeler Mfg. Co.	C. H. Wheeler Mfg. Co.
CONDUIT				
CONTROL INSTRUMENTS	Foxboro Co.		Foxboro Co.	
CONVEYORS		Jeffrey Mfg. Co.	Chain Belt Co.	Holly Pneumatic Systems
CRANE GRAB				
CRANES			Northern Engineering Works Reading Chain & Block Yale & Towne Mfg. Co.	
CRUSHERS			Fibre Making Processes	D. J. Murray Mfg. Co.
CUTTERS				Hamblet Machine Co.
CYCLONES			Chicago Bridge & Iron Works E. D. Jones & Sons Co. Norfolk Tank Corp.	
DECKERS				
DERRICKS				

MULTIPLE STAGE COUNTER-CURRENT PAPER STOCK WASHERS • DECKERS • WET MACHINES, INCLUDING HYDRAULIC WITH HIGH DENSITY VACUUM WET END • THORNE BLEACHING EQUIPMENT • PNEUMATIC WATER FILTERS • CYLINDER MOULDS • LABORATORY EQUIPMENT • SPECIAL MACHINERY

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	**Kraft Corp. of America, Fernandina, Fla.** Geo. F. Hardy, Engr.; Merritt, Chapman & Scott, Builders; Sulphate Pulp; 150 Tons Daily.	**Southern Kraft Corp., Georgetown, S. C.** Southern Kraft Corp., Builders; Sulphate Pulp, Kraft Paper and Board; 600 Tons Daily.	**Union Bag & Paper Corp. Savannah, Ga.** Geo. F. Hardy, Engr.; Merritt, Chapman & Scott, Builders; Sulphate Pulp and Kraft Paper; 600 Tons Daily.	**West Virginia Pulp & Paper Co., Charleston, S. C.** West Virginia Pulp & Paper Co., Engr.; Morton C. Tuttle Co., Builders; Sulphate Pulp and Kraft Board; 350 Tons Daily.
After Coolers		Westinghouse Electric & Mfg. Co.		
Agitators	Dilts Machine Works	Dilts Machine Works	Dilts Machine Works	Noble & Wood Machine Co. Pulp Bleaching Corp.
Air Compressors	Ingersoll-Rand Co.	Ingersoll-Rand Co.	Hardie-Tynes Mfg. Co.	Chicago Pneumatic Tool Co.
Air Conditioning	J. O. Ross Engineering		York Ice Machinery Co.	
Ammeters		General Electric Co.		
Asbestos		Philip Carey Mfg. Co.		
Auto Call Systems		American Automatic Electric Sales Co.		
Barking Drums	Manitowoc Engineering Works	Fibre Making Processes	Fibre Making Processes Manitowoc Engineering Works	D. J. Murray Mfg. Co.
Barometers				C. J. Tagliabue Mfg. Co.
Bearings				
Beaters				
Belts	Alexander; U. S. Rubber	J. E. Rhoads & Sons		
Bleaching Plants				
Boilers	Babcock & Wilcox Co.	Babcock & Wilcox Co.	Babcock & Wilcox Co. Hagan Corp. Smoot Engineering Co.	Babcock & Wilcox Co. Riley Stoker Corp.
Brick—Building	Standard Brick & Tile Co.		Standard Brick & Tile Co.	
Brick—Glass				Owen-Illinois Glass Co.
Broke Beaters			Dilts Machine Works	Shartle Bros. Machine Co.
Cables	Westinghouse Electric & Mfg. Co.	Anaconda Wire & Cable Co.	Westinghouse Electric Supply Co.	
Calender Stacks				
Calenders				Farrel-Birmingham Co.
Causticizing Equipment	Dorr Co.	Dorr Co.	Dorr Co.	Dorr Co.
Chip Screens	Orville Simpson Co.	Simplicity Mfg. Co.	W. S. Tyler Co.	Orville Simpson Co.
Chippers	Carthage Machine Co. Waterville Iron Works		Carthage Machine Works	D. J. Murray Mfg. Co.
Chutes			Steel Products Co.	
Clarification Equipment	Dorr Co.			
Combustion Control Instruments	Bailey Meter Co.	Smoot Engineering Co.	Bailey Meter Co. Smoot Engineering Co.	Republic Flow Meters Co.
Concrete				
Condensate Systems	Fibre Making Processes MidWest-Fulton Machine		MidWest-Fulton Machine	
Condenser Plants	Fibre Making Processes		Fibre Making Processes	
Condensers		Westinghouse Electric & Mfg. Co.	Fibre Making Processes Foster-Wheeler Schutte & Koerting Co.	Foster-Wheeler
Conduit	Westinghouse Electric & Mfg. Co.	Walker Mfg. Co.	Westinghouse Electrical Supply Co. Youngstown Sheet & Tube Co.	Clifton Conduit Co. Triangle Conduit Co.
Control Instruments	Foxboro Co.	Foxboro Co.	Foxboro Co.	Foxboro Co. Mason-Neilan Regulator Co.
Conveyors	Jeffrey Mfg. Co. Mathews Conveyor Co. Stephens-Adamson Mfg. Co.	Chain Belt Co. B. F. Goodrich Co.	Jeffrey Mfg. Co. Stephens-Adamson Mfg. Co. U. S. Rubber Products Co.	Chain Belt Co. Jeffrey Mfg. Co. Robins Conveying Belt Co.
Crane Grab	Kiesler Mfg. Co.			
Cranes	Ohio Loco Crane Co. Reading Chain & Block	Northern Engineering Works	Whiting Corp.	Shaw Box Crane & Hoist Co. Whiting Corp.
Crushers	Williams Mfg. Co.		Waterville Iron Works	D. J. Murray Mfg. Co.
Cutters			Hamblet Machine Co.	
Cyclones	Chicago Bridge & Iron Works	Ingalls Iron Works	Chicago Bridge & Iron Works	Chattanooga Boiler & Tank Co.
Deckers			Improved Paper Machinery	
Derricks			American Hoist & Derrick Co.	

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Brunswick Pulp & Paper Co., Brunswick, Ga.	Champion Paper & Fibre Co., Pasadena, Tex.	Chesapeake-Camp Corp., Franklin, Va.	Crossett Paper Mills, Crossett, Ark.
DESUPERHEATERS				
DIFFUSERS				Babcock & Wilcox Co.
DIGESTER SYSTEM	Fibre Making Processes			
DIGESTERS	Blaw-Knox Co.	Hedges-Walsh-Weidner Co.	Blaw-Knox Co.	Babcock & Wilcox Co.
DOCKS	W. H. Greenfeld			
DREDGING	Parkhill Dredging Co.			
DRIER DRAINAGE EQUIPMENT	MidWest-Fulton Machine		MidWest-Fulton Machine	MidWest-Fulton Machine
DRIVES	General Electric Co. Improved Paper Machinery	General Electric Co. Improved Paper Machinery		Westinghouse Electric & Mfg. Co.
ELECTRIC METERS				
ELEVATORS			Westbrook Elevator Mfg. Co.	Jeffrey Mfg. Co.
EVAPORATOR CONDENSING EQUIPMENT		C. H. Wheeler Mfg. Co.		
EVAPORATORS	Swenson Evaporator Co.	Buffalo Foundry & Machine U. S. Cast Iron Pipe & Foundry Co.	Swenson Evaporator Co.	Swenson Evaporator Co.
EXHAUST SYSTEMS	J. O. Ross Engineering	J. O. Ross Engineering	J. O. Ross Engineering	J. O. Ross Engineering
FANS				
FEEDERS	M. A. Hofft Co.		M. A. Hofft Co.	M. A. Hofft Co.
FEED WATER HEATERS			Elliott Co.	
FEED WATER REGULATORS				
FEED WATER TREATMENT EQUIPMENT			Hagan Corp.	
FELT ROLLS				
FELTS		Wm. E. Hooper & Sons Co.		
FILTERS		Dorr Co. Oliver United Filters	Improved Paper Machinery	Filtration Engineers J. E. Malone Co.
FITTINGS				
FLAT BOX DRAINAGE			MidWest-Fulton Machine Co.	
FLOW METERS				Bailey Meter Co.
FLUES				
FOURDRINIERS	Rice, Barton & Fales Co.	Black-Clawson Co.	Pusey & Jones	Bagley & Sewall
FURNACES	M. A. Hofft Co.	M. A. Hofft Co.	M. A. Hofft Co.	M. A. Hofft Co. Nichols Herreshoff Engineering Co.
GAUGES				Bailey Meter Co.
GEAR REDUCERS				
GEARS				
GENERATORS			Westinghouse Electric & Mfg. Co.	Westinghouse Electric & Mfg. Co.
GLASS				
GRATINGS				
GRINDERS—Knife			Samuel C. Rogers Co.	

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Kraft Corp. of America, Fernandina, Fla.	Southern Kraft Corp., Georgetown, S. C.	Union Bag & Paper Corp. Savannah, Ga.	West Virginia Pulp & Paper Co., Charleston, S. C.
DESUPERHEATERS		Swartwout Co.		
DIFFUSERS	Chicago Bridge & Iron Works	Ingalls Iron Works	Chicago Bridge & Iron Works Fibre Making Processes M. W. Kellogg Co.	
DIGESTER SYSTEM	Fibre Making Processes			
DIGESTERS	Chicago Bridge & Iron Works	Babcock & Wilcox Co. Ingalls Iron Works	Chicago Bridge & Iron Works M. W. Kellogg Co.	Combustion Engineering Co.
DOCKS				
DREDGING			Parkhill Dredging Co.	
DRIER DRAINAGE EQUIPMENT	MidWest-Fulton Machine	MidWest-Fulton Machine	MidWest-Fulton Machine	MidWest-Fulton Machine
DRIVES	General Electric Co.	Allis-Chalmers Mfg. Co.	General Electric Co. Improved Paper Machinery	Westinghouse Electric & Mfg. Co.
ELECTRIC METERS				General Electric Co. Westinghouse Electric & Mfg. Co. Weston Electric Instrument Co.
ELEVATORS			Otis Elevator Co. Westinghouse Electrical Elevator Co.	Otis Elevator Co.
EVAPORATOR CONDENSING EQUIPMENT				
EVAPORATORS	Swenson Evaporator Co.	Swenson Evaporator Co.	Swenson Evaporator Co.	Goslin-Birmingham Co.
EXHAUST SYSTEMS	J. O. Ross Engineering		J. O. Ross Engineering	J. O. Ross Engineering
FANS	B. F. Sturtevant; Buffalo	American Blower Corp.		
FEEDERS	M. A. Hofft Co.	M. A. Hofft Co.	M. A. Hofft Co.	M. A. Hofft Co.
FEED WATER HEATERS		Elliott Co.		Elliott Co.
FEED WATER REGULATORS			Swartwout Co.	
FEED WATER TREATMENT EQUIPMENT				Chicago Bridge & Iron Works Permutit Co.
FELT ROLLS			Downingtown Mfg. Co.	
FELTS				
FILTERS	J. E. Malone Co.	Oliver United Filters	J. E. Malone Co. Oliver United Filters	Improved Paper Machinery
FITTINGS		Chapman Valve Mfg. Co. Grinnell Co.		Tube Turns, Inc.
FLAT BOX DRAINAGE				A. E. Broughton & Co.
FLOW METERS		Republic Flow Meters Co.		Republic Flow Meters Co.
FLUES			Steel Products Co.	
FOURDRINIERS		Beloit Iron Works	Pusey & Jones	Pusey & Jones
FURNACES	M. A. Hofft Co.	M. A. Hofft Co.	M. A. Hofft Co.	M. A. Hofft Co.
GAUGES		Consolidated Ashcroft-Hancock Co.		Behrer-Nason Co. Consolidated Ashcroft-Hancock Co. Foxboro Co. U. S. Gauge Co. Reliance Gauge Column Co.
GEAR REDUCERS		D. O. James Mfg. Co.		Louis-Allis Co. Boston Gear Works U. S. Electric Motors Westinghouse Electric & Mfg. Co.
GEARS				Louis-Allis Co. Boston Gear Works U. S. Electric Motors Westinghouse Electric & Mfg. Co.
GENERATORS				Westinghouse Electric & Mfg. Co.
GLASS			Pittsburgh Plate Glass Co.	
GRATINGS		Stupp Bros. Bridge & Iron Co.	American Abrasive Metal Co.	
GRINDERS—Knife				

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Brunswick Pulp & Paper Co., Brunswick, Ga.	Champion Paper & Fibre Co., Pasadena, Tex.	Chesapeake-Camp Corp., Franklin, Va.	Crossett Paper Mills, Crossett, Ark.
HEATERS		Fibre Making Processes		
HEATERS—Unit			J. O. Ross Engineering	J. O. Ross Engineering
HEATING EQUIPMENT		J. O. Ross Engineering	J. O. Ross Engineering	J. O. Ross Engineering
HOISTS			Northern Engineering Works Reading Chain & Block Yale & Towne Mfg. Co.	
HOODS	J. O. Ross Engineering	J. O. Ross Engineering	J. O. Ross Engineering	J. O. Ross Engineering
HYDRANTS				
INDUCED DRAFT FANS			B. F. Sturtevant Co.	
INSTRUMENTS			Merritt Engineering & Sales Co.	
INSULATION				Standard Asbestos & Insulating Co.
JOINTS—Expansion				
JORDANS			E. D. Jones & Sons Co.	Shartle Bros. Machine Co.
KNOTTERS	Trimbey Machine Works	Improved Paper Machinery	Improved Paper Machinery	
LAYBOY				
LIME FURNACE	Nicholo Eng. & Research			
LIME KILN		Traylor Engineering Co.		
LIFT TRUCKS				
LUBRICATION SYSTEMS	S. F. Bowser & Co.			S. F. Bowser & Co.
METERS				Trimbey Machine Works
MOTORS		Westinghouse Electric & Mfg. Co.	Westinghouse Electric & Mfg. Co.	Westinghouse Electric & Mfg. Co.
MOVEABLE PLATFORMS				
OFFICE EQUIPMENT				
OIL BURNERS				
OIL CIRCUIT BREAKER				
OIL METERS				
PACKING				
PAINT				
PILES—Foundation	Raymond Concrete Pile Co.			
PIPE			Pittsburgh Piping & Equip. Co.	Pittsburgh Piping & Equip. Co.
PIPE COVERING			Johns-Manville Corp.	
PLUG COCKS				
PULP BALER				
PULP DRIER MACHINES				Beloit Iron Works
PULP PRESSES	Baldwin-Southwark	Baldwin-Southwark		
PULP WASHERS	Oliver United Filters			
PUMPS	Warren Steam Pump Co.	Fibre Making Processes Goulds Pumps Ingersoll-Rand Co. Nash Engineering Co. Oliver United Filters	Glens Falls Machine Works Ingersoll-Rand Co.	Bingham Pump Co. Warren Steam Pump Co.
PUMPS—Boiler Feed				

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Kraft Corp. of America, Fernandina, Fla.	Southern Kraft Corp., Georgetown, S. C.	Union Bag & Paper Corp. Savannah, Ga.	West Virginia Pulp & Paper Co., Charleston, S. C.
Heaters	Cochrane Co. Griscom-Russell Co.	General Electric Co.	Fibre Making Processes Foster-Wheeler	
Heaters—Unit		American Blower Corp.		
Heating Equipment	J. O. Ross Engineering		J. O. Ross Engineering	J. O. Ross Engineering
Hoists	Yale & Towne Co.		American Monorail Co.	
Hoods	J. O. Ross Engineering		J. O. Ross Engineering	J. O. Ross Engineering
Hydrants			A. P. Smith Mfg. Co.	
Induced Draft Fans				Clarage Fan Co. B. F. Sturtevant Co.
Instruments	Bailey Meter Co. Consolidated Ashcroft-Hancock Co.			
Insulation	Philip Carey Co. Johns-Manville Co.		Walker-Jamar Co.	
Joints—Expansion		Jos. Kopperman & Sons		
Jordans			E. D. Jones & Sons Co.	Noble & Wood Machine Co.
Knotters	Improved Paper Machinery	American Paper Mach. & Eng. Works	Improved Paper Machinery	Improved Paper Machinery
Layboy			Hamblet Machine Co.	
Lime Furnace				
Lime Kiln		Allis-Chalmers Mfg. Co.	Vulcan Iron Works	Traylor Engineering & Mfg. Co.
Lift Trucks	Auto. Electric Co.		Automatic Transportation Co.	
Lubrication Systems		S. F. Bowser & Co.		
Meters	Bailey Meter Co.		Bailey Meter Co. Smoot Engineering Co. Taylor Instrument Co.	Esterline-Angus Co. Schutte & Koerting Co.
Motors	Electric Machinery Mfg. Co. General Electric Co. Westinghouse Electric & Mfg. Co.	Westinghouse Electric & Mfg. Co.	Diehl Mfg. Co. Electric Machinery Mfg. Co. General Electric Co.	Louis Allis Co. Electric Machinery Mfg. Co. General Electric Co. Reliance Electric & Eng. Co. Westinghouse Electric & Mfg. Co.
Movable Platforms			Reading Chain & Block	
Office Equipment			Myrtle Desk Co.	
Oil Burners		Babcock & Wilcox Co.	Hauck Mfg. Co.	
Oil Circuit Breaker		General Electric Co.		
Oil Meters				National Meter Co.
Packing		Garlock Packing Co.		
Paint			Earl Paint Corp. Sherwin-Williams Co.	
Piles—Foundation				Tidewater Construction Co.
Pipe	Chicago Bridge & Iron Works Crane Co.		Crane Co. Crawford-Slaten & Co. Grinnall Co. Johns-Manville Corp. Taylor Forge & Pipe Works U. S. Pipe & Foundry Youngstown Sheet & Tube Co.	Jones & Laughlin Steel Corp. Lock Joint Pipe Co. Lynchburg Foundry Co.
Pipe Covering		Green Bay Barker & Mach. Works		Philip Carey Mfg. Co. Chas. S. Wood & Co.
Plug Cocks				
Pulp Baler			Economy Baler Co.	
Pulp Drier Machines	Beloit Iron Works			
Pulp Presses	Baldwin-Southwark			
Pulp Washers				
Pumps	Goulds Pumps Ingersoll-Rand Co. LaBour Pump Co. Layne-Atlantic Co. Worthington Pump & Mach.	Ingersoll-Rand Co. Quimby Pump Co.	Goulds Pumps Layne-Atlantic Co. Quimby Pump Co. Preferred Utilities Co.	Deming Co. Goulds Pumps Ingersoll-Rand Co. Morris Machine Works Warren Steam Pump Co. Worthington Pump & Mach.
Pumps—Boiler Feed		Ingersoll-Rand Co.		

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Brunswick Pulp & Paper Co., Brunswick, Ga.	Champion Paper & Fibre Co., Pasadena, Tex.	Chesapeake-Camp Corp., Franklin, Va.	Crossett Paper Mills, Crossett, Ark.
PUMPS—Centrifugal				
PUMPS—Condensate				
PUMPS—Water Supply			Sydnor Pump & Well Co.	
RECAUSTICIZING SYSTEMS	Dorr Co.	Dorr Co.		
RECORDERS				Bailey Meter Co.
RECOVERY SMELTERS				B. & W. Tomlinson
RECOVERY SYSTEMS			Babcock & Wilcox Co.	Babcock & Wilcox Co.
REEL				Bagley & Sewall
REFINERS			Bauer Bros. Co.	Dilts Machine Works
REFRACTORIES				
REGULATORS		Noble & Wood Machine Co.		Trimbey Machine Works
REWINDERS				Cameron Machine Co.
ROLL GRINDERS				
ROLLS—Rubber Covered				
ROOFING	R. J. Dorn & Co.			
ROTAMETER				
SASH	Campbell Metal Window			
SCALES			Howe Scale Co. Toledo Scale Co.	
SCREENS	Improved Paper Machinery	Improved Paper Machinery	Improved Paper Machinery	Improved Paper Machinery E. D. Jones & Sons Orville Simpson Co.
SIDING	R. J. Dorn & Co.			
SIZE MAKING EQUIPMENT				
SKIDS				
SPOUTS				
SPRINKLER SYSTEMS				
SPROCKETS				
STACKS				
STEAM TRAPS				
STEEL	Virginia Bridge & Iron Co.	Ingalls Iron Works Laclede Steel Co.	Richmond Structural Steel Co. Truscon Steel Co.	
STEEL FRAMING				
STOCK CHESTS			Chicago Bridge & Iron Works E. D. Jones & Sons Co. Norfolk Tank Corp.	Belmar
SUCTION COUCH ROLLS				Beloit Iron Works
SWITCHBOARD				
SWITCHING EQUIPMENT			Allis-Chalmers Mfg. Co.	
TACHOMETERS				

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Kraft Corp. of America, Fernandina, Fla.	Southern Kraft Corp., Georgetown, S. C.	Union Bag & Paper Corp. Savannah, Ga.	West Virginia Pulp & Paper Co., Charleston, S. C.
PUMPS—Centrifugal		Dayton-Dowd Co. Ingersoll-Rand Co. LaBour Pump Co.		
PUMPS—Condensate	LeBlanc Co.	Westinghouse Electric & Mfg. Co.		
PUMPS—Water Supply				Turbine Equipment Co.
RECAUSTICIZING SYSTEMS	Dorr Co.	Dorr Co.	Dorr Co.	Dorr Co.
RECORDERS				Republic Flow Meters Co. Leeds & Northrup Co.
RECOVERY SMELTERS				
RECOVERY SYSTEMS		Babcock & Wilcox Co.		Babcock & Wilcox Co. Combustion Engineering Co.
REEL				
REFINERS	Dilts Machine Works		Bauer Bros. Co. Wiener Refiner Eng. Co.	
REFRACTORIES	Laclede-Christy Clay Products Co.	Harbison-Walker Refractories Co.	General Refractories Co. Harbison-Walker Refractories Co. Quigley Co.	General Refractories Co. Harbison-Walker Refractories Co.
REGULATORS	Brookes Engineering Co. Paper & Industrial Appl. Co.		Trimbey Machine Works	Allis-Chalmers Mfg. Co. Republic Flow Meters Co. Trimbey Machine Works
REWINDERS			Cameron Machine Co.	Moore & White Co.
ROLL GRINDERS		Farrel-Birmingham Co.	Lobdell Car Wheel Co.	Farrel-Birmingham Co.
ROLLS—Rubber Covered		American Wringer Co.		Stowe-Woodward
ROOFING	Philip Carey Co. Federal American Cement & Tile Co. Walker Jamar Co.		Federal American Cement & Tile Co. Lathrop-Hodge-Gypsum Co. Walker-Jamar Co.	H. H. Robertson Co.
ROTAMETER		Schutte & Koerting Co.		
SASH			J. P. Mills Truscon Steel Co.	
SCALES	Fairbanks, Morse & Co.	Toledo Scale Co.	Kron Co.	
SCREENS	Improved Paper Machinery		Improved Paper Machinery E. D. Jones & Sons Link Belt Co.	Improved Paper Machinery
SIDING				H. H. Robertson Co.
SIZE MAKING EQUIPMENT				Bennett, Inc.
SKIDS			Automatic Transportation Co.	
SPOUTS			Steel Products Co.	
SPRINKLER SYSTEMS	Viking Co.		Crawford-Slaten Co.	
SPROCKETS		Chain Belt Co. Link Belt Co.		
STACKS		Ingalls Iron Works	M. W. Kellogg Co. Steel Products Co.	
STEAM TRAPS	Strong, Carlisle & Hammond	Strong, Carlisle & Hammond	Strong, Carlisle & Hammond	Strong, Carlisle & Hammond
STEEL	Jones & Laughlin Steel U. S. Steel		Austin Co. Jones & Laughlin Steel Steel Erectors, Inc. Steel Products Co. Tennessee Coal, Iron & R. R. Co. Virginia Bridge & Iron Co.	Virginia Bridge & Iron Co.
STEEL FRAMING		Stupp Bros. Bridge & Iron Co.		
STOCK CHESTS				Chattanooga Boiler & Tank Co.
SUCTION COUCH ROLLS				
SWITCHBOARD	Westinghouse Electric & Mfg. Co.		General Electric Co.	
SWITCHING EQUIPMENT				Allis-Chalmers Mfg. Co. Cutler-Hammer General Electric Co. I.T.E. Circuit Breaker Co. Wolfe & Mann Mfg. Co.
TACHOMETERS				James G. Biddle Co.

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Brunswick Pulp & Paper Co., Brunswick, Ga.	Champion Paper & Fibre Co., Pasadena, Tex.	Chesapeake-Camp Corp., Franklin, Va.	Crossett Paper Mills, Crossett, Ark.
TANKS	Chicago Bridge & Iron Works Kalamazoo Tank & Silo	Baltimore Cooperage Tank & Tower Co. Wyatt Metal & Boiler Co.	Chicago Bridge & Iron Works E. D. Jones & Sons Co. Norfolk Tank Corp.	Chicago Bridge & Iron Works
TESTING INSTRUMENTS	Foxboro Co.		Foxboro Co.	
THERMOMETERS				
THICKENERS		Improved Paper Machinery	Improved Paper Machinery	Improved Paper Machinery
TILE				
TRANSFORMERS			Westinghouse Electric & Mfg. Co.	Westinghouse Electric & Mfg. Co.
TRAPS				
TREADS				
TREADS—Stair				
TRIMMER				Seybold Machine Co.
TROLLEYS				
TROUGHS				
TURBINES	General Electric Co.		Westinghouse Electric & Mfg. Co.	Westinghouse Electric & Mfg. Co.
UPTAKES				
VACUUM CONTROL				A. E. Broughton & Co.
VACUUM PUMPS	Nash Engineering Co. Roots-Connersville Blower		Nash Engineering Co.	Nash Engineering Co.
VALVES			Fairbanks Co. Fibre Making Processes Fisher Governor Co. Mason-Neilan Regulator Co. Northern Equipment Co. Yarnal-Waring Co.	Foxboro Co. Pusey & Jones Yarnal-Waring Co.
VAPOR ABSORPTION SYSTEMS				
VATS	Improved Paper Machinery	Improved Paper Machinery		
VENTILATING EQUIPMENT	J. O. Ross Engineering	J. O. Ross Engineering	J. O. Ross Engineering	J. O. Ross Engineering
WASHERS		Improved Paper Machinery		Improved Paper Machinery
WASH PANS				
WATER FLOW METERS				
WATER SOFTENER				
WELLS	Layne-Atlantic Co.			
WET MACHINES			Improved Paper Machinery	Improved Paper Machinery
WINDERS			Cameron Machine Co.	Bagley & Sewall Co.
WINDOWS				
WIRE				Allegheny Industrial Electric Co.

Plan Another Mill for Java

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 24, 1937—The N. V. Papierfabrick Padalarang, of Padalarang, Java, the only paper factory of any importance in the Netherlands Indies, is planning the establishment of a second mill, to be located near Surabaya, according to a report from the office of the American Trade Commissioner, Batavia. Ten hectares of land have already been purchased as a site, according to reports. No information is available regarding the proposed capacity of the new plant, which will probably not be ready to operate until the end of 1938. The present factory at Paladarang is estimated to be producing 6,000 metric tons annually, mainly consisting of wrapping and packing paper.

It is reported that the machinery for the new mill has already been ordered in Europe and that the plant will be powered by electricity, using paddy straw as chief raw material.

The factory is to be divided into two sections, one for the manufacture of finished paper products and the other for making semi-manufactured material, probably for export purposes.

EQUIPMENT IN NEW SOUTHERN MILLS

(The Following Lists Have Been Supplied to Date by the Mills Represented)

Machinery and Equipment	Kraft Corp. of America, Fernandina, Fla.	Southern Kraft Corp., Georgetown, S. C.	Union Bag & Paper Corp. Savannah, Ga.	West Virginia Pulp & Paper Co., Charleston, S. C.
TANKS	Chicago Bridge & Iron Works Graver Tank Works	Ingalls Iron Works	Chicago Bridge & Iron Works Hammond Iron Works Houser Stander Tank Co. Preferred Utilities Co.	Chattanooga Boiler & Tank Co.
TESTING INSTRUMENTS	Foxboro Co.	Foxboro Co.	Foxboro Co.	Foxboro Co.
THERMOMETERS		Foxboro Co.		Minneapolis-Honeywell Co. Moeller Co.
THICKENERS	Improved Paper Machinery	Dorr Co.	Improved Paper Machinery	Improved Paper Machinery
TILE	Standard Brick & Tile Co.		Federal American Cement & Tile Co.	National Fireproofing Co.
TRANSFORMERS	General Electric Co.	Allis-Chalmers Mfg. Co.	General Electric Co.	General Electric Co.
TRAPS			Chicago Bridge & Iron Works	
TREADS			American Abrasive Metal Co.	
TREADS—Stair		Arrowhead Iron Works		
TRIMMER				
TROLLEYS			American Monorail Co.	
TROUGHS			Steel Products Co.	
TURBINES	Westinghouse Electric & Mfg. Co.	General Electric Co.	General Electric Co.	Westinghouse Electric & Mfg. Co.
UPTAKES			Steel Products Co.	
VACUUM CONTROL				
VACUUM PUMPS			Roots-Connersville Blower	Nash Engineering Co.
VALVES	Brookes Engineering Co. Crane Co. Edward Valve & Mfg. Co. Jenkins Bros. Valve Co. Lunkenheimer Co. Walworth Co.	Chapman Valve Mfg. Co. Consolidated Ashcroft-Hancock Co. Schutte & Koerting Co. Swartwout Co.	Atwood & Merrill Co. Crane Co. A. P. Smith Mfg. Co.	Chapman Valve Mfg. Co. Darling Valve & Mfg. Co. Pratt & Cady Co. Record Foundry & Mach. Co.
VAPOR ABSORPTION SYSTEMS	J. O. Ross Engineering	J. O. Ross Engineering		J. O. Ross Engineering
VATS				
VENTILATING EQUIPMENT	J. O. Ross Engineering		J. O. Ross Engineering	J. O. Ross Engineering
WASHERS				
WASH PANS				Chattanooga Boiler & Tank Co.
WATER FLOW METERS				Simplex Valve & Meter Co.
WATER SOFTENER	Cochrane Co.		Permutit Co.	
WELLS	Layne-Atlantic Co.		Layne-Atlantic Co.	
WET MACHINES		Glens Falls Machine Works	Improved Paper Machinery	Improved Paper Machinery
WINDERS				Cameron Machine Co.
WINDOWS				William Bailey Co.
WIRE	Westinghouse Electric & Mfg. Co.		American Steel & Wire Co. Maryland Steel Products Co.	Anaconda Wire & Cable Co. General Electric Co. Okonite Co. John A. Roebling's Sons Co.

Brazil Imports More Wood Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 10, 1937—Imports of wood pulp into Brazil during 1936 reached a total of 84,460 metric tons, according to a report from the American Consulate General in Rio de Janeiro.

The greater part of these imports came from Germany and the Scandinavian countries.

Wood pulp for the manufacture of paper is admitted into Brazil at reduced rates of duty, provided it complies with the regulations which are designed to prevent the use of wood pulp for purposes other than paper making. The regulations provide that wood pulp sheets must be perforated in the form of circles, rectangles or triangles, having a diameter of base of 15 millimeters or more and spaced every 10 centimeters or less. It was found, however, that this regulation was not in accordance with the usual practice throughout the world, and, by ministerial order, the application of this item of the tariff is not being rigidly enforced. Under present practice, the holes punctured in the wood pulp sheets need not be clean cut, and a tolerance of 2 centimeters in the spacing is permitted.

When the end of 1937 rolls around and industry adds up the items of plant operating cost directly attributable to friction, an amazing total of *four billion dollars* will appear at the foot of the column! A staggering loss to American industry in a single year.

What is being done to reduce it? A relentless battle is being waged against the wastes of friction every day by Gulf's large staff of trained lubrication engineers. These men, real lubrication specialists, work with plant operating men to make machines produce on a more efficient basis.

In their broad experience they have found literally dozens of ways to save money by better selection of lubricants and better application methods.

Plant managers who take advantage of this cooperative service, available from Maine to Texas, save money—in reduced costs for power and for maintenance, and in improved production from each machine in the plant.

Let a Gulf engineer recommend—from Gulf's complete line of 553 oils and greases—the lubricants which will help *you* reduce the wastes of friction in *your* plant.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation ★ Gulf Refining Company

GENERAL OFFICES: GULF BUILDING, PITTSBURGH, PA.

Hartford City Paper Co. Makes Extensive Power Plant Improvements

The Hartford City Paper Company of Hartford City, Ind., is at present carrying on an extensive program of power plant improvements involving principally modernization of the steam generating and electric power generating equipment.

A new steam generating unit of 55,000 lbs. per hour capacity will replace existing horizontal return tubular boilers. There are nine of these, 200 hp. each. The boilers are generating steam at 125 lbs. gage pressure with no superheat and are fired by old Murphy stokers. The present hourly steam load is estimated to be 43,000 lbs. This steam is being produced at 55 per cent tested efficiency, resulting in a yearly coal consumption of approximately 28,000 tons.

Requirements Governing Selections

The following requirements governed the selection of the new steam generating units:—

First—Reasonably high efficiency without heat recovery equipment. A high stack was considered necessary for prevention of dust nuisance and this made it advisable to eliminate an induced draft fan and to design the new unit for natural draft operation. This required low overall draft loss and therefore absence of air-heater or economizer. The expected thermal efficiency of the new unit will exceed 79 per cent.

Second—Necessity of responding to large load swings quickly and without loss of efficiency. Pulverized coal firing was selected. The unit is served by two high speed turbine driven unit pulverizers, each of ample capacity to handle the maximum steam load. There is therefore 100 per cent pulverizer stand-by capacity.

Third—Flexibility in type and kind of fuels to be burned. A variety of Middle Western coals may have to be used, some of which have low ash softening temperatures. The pulverized coal furnace is therefore water-cooled on the two sides and the back. The side water wall tubes are bare and so closely spaced that a completely tube covered surface is obtained. The rear wall of the furnace is formed by the boiler tubes which also extend over the roof of the furnace and are arranged to present an efficient slag screen.

Two turbulent combination coal and oil burners are used. The burners are set in the front wall of the furnace at an angle (see Fig. 2) so that each burner can be operated singly without the possibility or unequal heat distribution in the furnace.

To Use Coal from Indiana Field

Normally coal from the Indiana field will be used. This coal will have approximately 11,300 BTU per pound as fired and the ash fusion temperature will be between 2000 deg. F. and 2100 deg. F. Oil will be used as stand-by fuel.

Fourth—Conservation of space and low building cost. The unit is being house in a new building, but ground area in the mill property is valuable. No utility could be expected from a high and costly building. The steam generating unit is therefore of the type requiring comparatively little ground space and head room (see Fig. 1). The boiler house has been designed so that a duplicate steam generating unit can be installed in the future, and the two pulverizers initially provided will then also serve the second boiler.

The new steam generating unit is constructed for a sustained steam output of 55,000 lbs. per hour at 325 lbs. gage pressure and 600 deg. F. steam temperature. It consists of 5400 sq. ft. boiler heating surface, 1100 sq. ft. water wall surface and has 3400 cu. ft. furnace volume. The superheater is placed in a clear space behind the first three rows of boiler tubes so that it is readily accessible. The lower part of the superheater surface can see the furnace through the spaces between the furnace screen tubes and its performance characteristic is therefore that of a combination convection and radiant type superheater. A uniform steam temperature will be obtained over the entire load range.

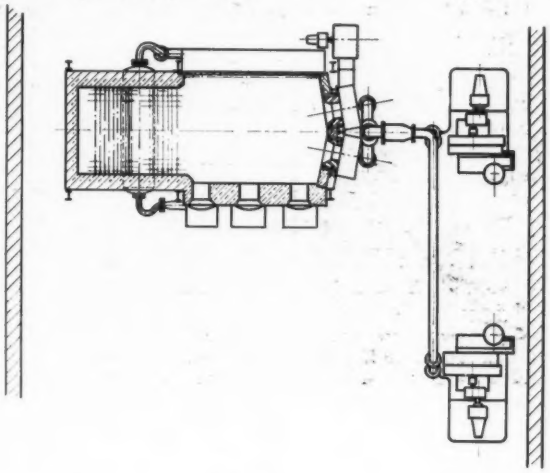


FIG. 2. PLAN

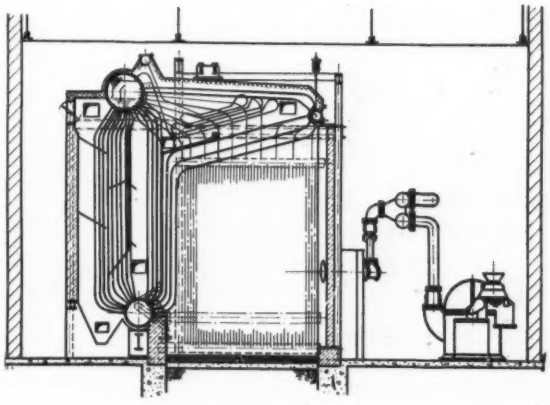


FIG. 1. ELEVATION.

Clean steam is important ror turbine operation. The boiler is equipped with a steam washer in which the steam must pass through the feed water and through an efficient separator before entering the superheater.

Boiler and water wall systems are integral and well defined circulation through each tube is maintained. This is considered important where rapid and extreme load swings take place, as are typical in paper mills.

Ash is being removed from the flat refractory lined furnace floor by hoeing and air lancing through large ash doors placed in one side of the furnace. Ash and flydust disposal is by pneumatic ash handling equipment.

Higher Thermal Efficiency

The higher thermal efficiency of the new boiler unit, which is 79 per cent as compared with 55 per cent for the existing H.R.T. boilers, results in an annual coal saving of 8500 tons. Other substantial savings will, of course, be realized with reduced operating personnel, greatly diminished maintenance cost and general reduction in steam consumption by improved plant heat balance.

In addition to the improvements in steam generating equipment in this plant the plans call for conversion of the entire mill to the use of alternating current.

At present the plant is served by direct current turbine generating equipment installed about 15 years ago. This D.C. current supply is supplemented by purchased A.C. current of 300 K.W.

New turbine generating equipment of 2500 K.W. capacity is being installed to supply all power required in the mill.

The beaters are at present driven by a Corliss engine. Individual A.C. motors will replace this engine drive.

Those Who Furnished Equipment

List of principal power plant equipment follows:—

Consulting Engineer, A. M. Kinney, Inc., Cincinnati, Ohio.

Boiler and Water Walls, Riley Stoker Corporation.

Boiler heating surface 5400 sq. ft.; Water Walls 1100 sq. ft.; Maximum capacity 55,000 lbs. per hour; Working pressure 325#G.; Total steamtemp. 600°F.

Superheater, Riley Stoker Corporation.

Boiler and Furnace Settings, Riley Stoker Corporation.

Sectionally Supported Front Wall, Bigelow-Liptak Corporation.

Boiler Heat Insulation, Eagle-Picher Company.

Soot Blowers, Diamond Power Specialty Corporation.

Coal Handling Equipment, Stephens-Adamson Manufacturing Company.

Ash Handling Equipment, United Conveyor Corporation.

Concrete Coal Storage Silo, Alphons-Custodis Chimney Construction Co.

Concrete Chimney 200 x 7 ft. diameter, Alphons-Custodis Chimney Construction Co.

Building Construction, E. Elford & Son, Columbus, Ohio.

COMBUSTION EQUIPMENT

Coal Pulverizers, Riley Stoker Corporation.

Combination Coal and Oil Burners, Riley Stoker Corporation.

Oil Burning Assembly, The Engineer Company.

Forced Draft Fan No. 67½ Silentvane, B. F. Sturtevant Company. Capacity—14,000 C.F.M. at 70 deg. and 2½" static pressure.

Auxiliary Turbine Drives, Terry Steam Turbine Company.

Boiler Meter Equipment, Leeds-Northrup Company, Bailey Meter Company.

Combustion Control, A. W. Cash Company.

VALVES

Safety Valves, Consolidated Ashcroft-Hancock Company.

Blow-down Valves, Cochrane Corporation.

Non-return Valves, William Powell Company.

Stop and Check Valves in Feed Line, William Powell Company.

High Pressure Valves, Edward Valve and Manufacturing Company.

FEED WATER SYSTEM

Water Columns, Yarnall-Waring Company.

Feed Water Regulator, Northern Equipment Company.

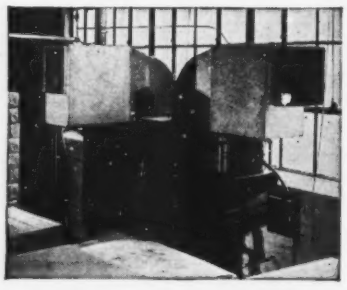
Excess Pressure Regulator, Northern Equipment Company.

Boiler Feed Pumps, 200 GPM against 1000 ft. head, Goulds Pumps, Inc.

Water Softening Equipment, Cochrane Corporation.

Humidifying Industrial Plants

For many years a need has been felt for some simple and inexpensive means of humidifying countless industrial, commercial and residential spaces.



The Humidity Box, developed over the past two years and just announced by "Humidity Headquarters," is essentially a high efficiency spray or fog chamber, provided with suitable water filter and nozzle, air filter - eliminator or baffle, and drain fitting.

Where less than 30 lb. per square inch water pressure is available, an electric vaporizer may be used to secure atomization.

Although the illustration shows two Humidity Boxes on the warm air outlets of a blower type unit heater, the devices can be used with equal success with propeller fan type unit heaters, or in fact in any warm air current, whether in free air or in a duct.

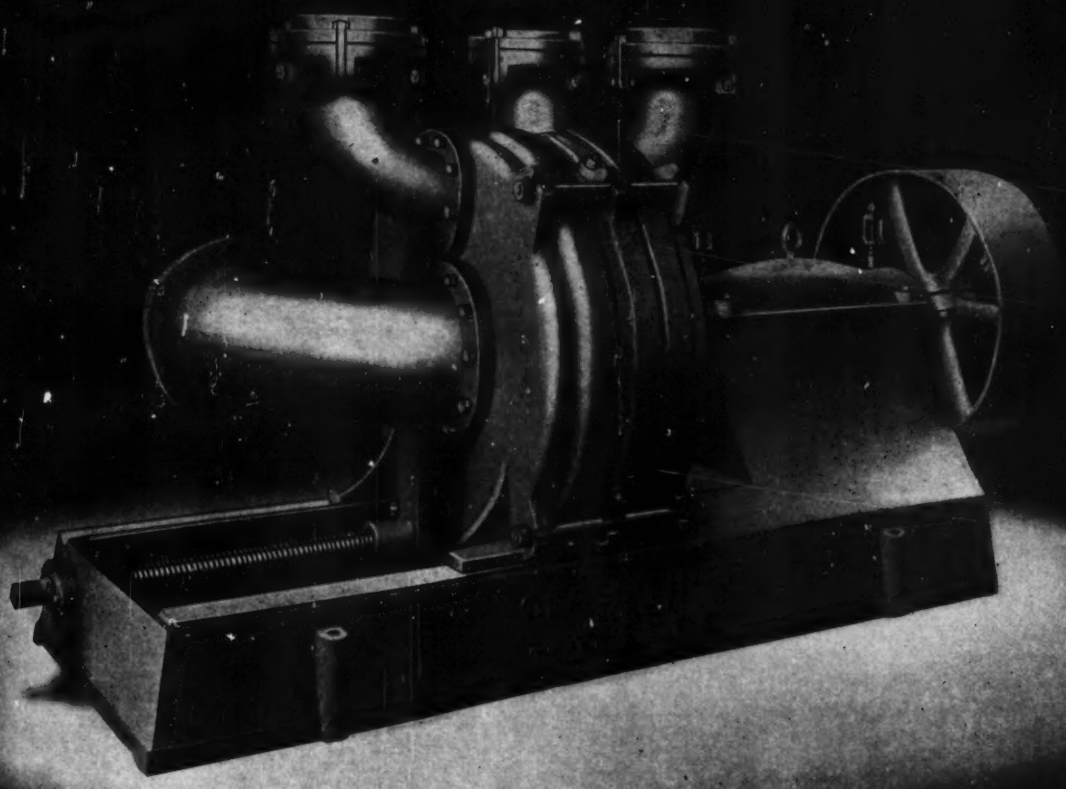
The Humidity box is supplied with or without fans or blower units.

It can also be combined with heating surface inside the spray chamber, this of course being a somewhat special variation.

The installation shown is in the modern plant of The Standard Envelope Manufacturing Company, Cleveland, one of the leading manufacturers of envelopes for all purposes.

The manufacturer of the Humidity Box is The Air Conditioning Supply Company, 1893 East 55th Street, Cleveland, Ohio.

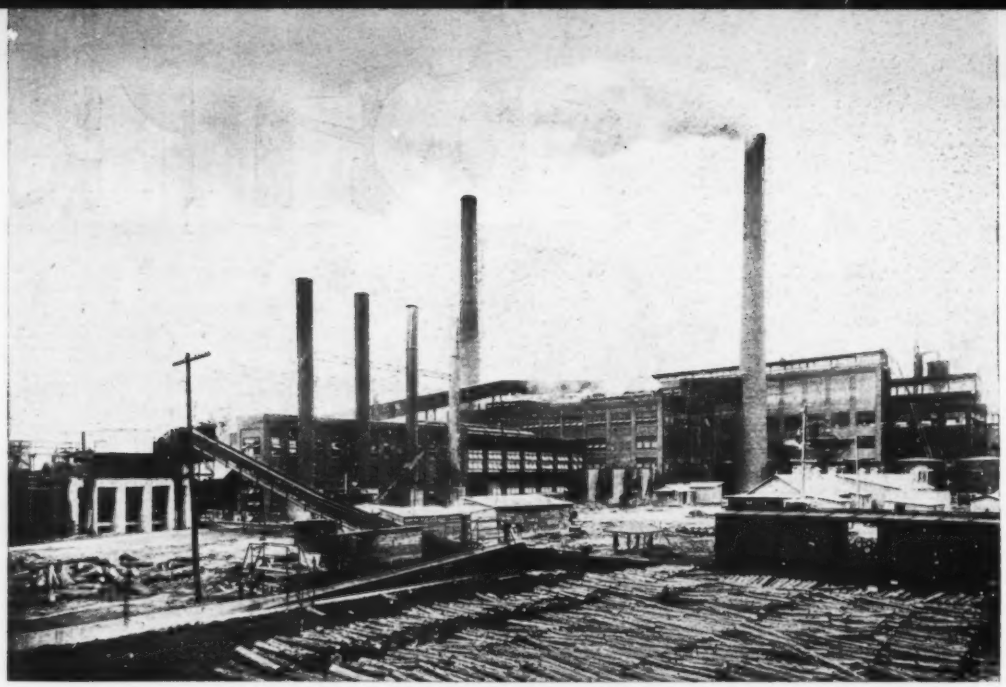
Dilts



- **COWLES CLASSIFINER — built by Dilts — designed to handle mixed paper stock with high production.**
- **ECONOMY — cheaper production at less maintenance expense and with low horse power consumption.**
- **QUALITY ASSURED — by completely reducing old paper stock—cleaning it of foreign material — leaving a stronger and longer fibre.**

Write for details regarding our able engineering assistance.

DILTS MACHINE WORKS INC., FULTON, N. Y.



Union Bag Completes Savannah Plant

By D. G. Moon, Chief Engineer, Union Bag & Paper Corp.

In July, 1935, the Union Bag and Paper Corporation broke ground for the construction of its First Unit at Savannah, designed initially for a daily capacity of 135 tons of pulp and 125 tons of Kraft bag and wrapping, with a converting plant capable of producing 12,000,000 bags per day. This first unit went into operation July 1, 1936, and is now producing with an average daily production of 200 tons of pulp and 150 tons of paper.

Plans for the second unit were started immediately after the first was put in operation, ground being broken in September, 1936, and the unit went into production June 1, 1937.

In November, it was decided to proceed with still a Third Unit to come into production October, 1937, ground being broken for this January 1, 1937. The combined productive capacity of these three units provides for a daily output of 700 tons of pulp and 600 tons of Kraft bag and wrapping paper, with provision for lapping and drying surplus pulp for shipment to the northern mills of the company. The initial shipment of surplus pulp from the No. 1 Unit was made by the S. S. "Mallard" on March 22, being the very first movement of any appreciable quantity of pulp from a southern mill to the north.

Buildings

Buildings for the first unit cover an area of approximately 250,000 square feet, and those for the second unit added 61,000 square feet, and for the third, 127,000, making a total of 438,000 square feet. All of these buildings are reinforced concrete, brick and steel construction, with steel sash and poured-in-place gypsum roof. About 3100 piles of concrete and wood have been driven for the three units.

Wood Yard

The wood yard has been extended and for the three units, will be served by three parallel lines of conveyors, each 1100 feet long, arranged to receive wood by rail, by barge or by truck, and deliver into two 10 x 30 chain suspended barking drums for the first unit and two 12 x 45 under slung drums for the second and third units.

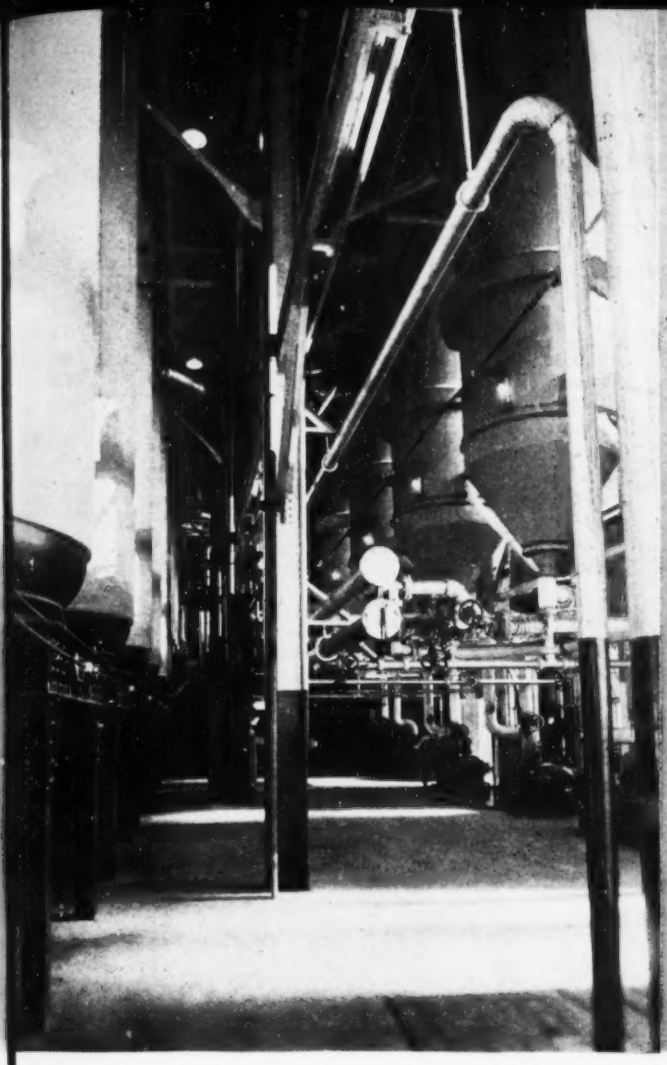
Wood Room

The wood room is arranged so that the first unit may be segregated for special cooks of pulps, if required, and has been supplemented by two additional 88 inch chippers, five 4 x 12 vibrating screens and two 36 inch chip crushers. From the wood room the chips will be conveyed to the digester bins on a 24 inch five ply rubber belt for the second and third units and an 18 inch belt for the first unit.

Pulp Mill Equipment

For the three units there will be provided thirteen steel digesters, each 7.8 ton capacity, arranged for both direct and indirect cooking. Washing the pulp for the first unit was taken care of with twelve fusion welded diffusers, located in one circle. The second and third units have twenty-eight diffusers arranged in four circles of seven each. For the recovery of heat and reduction of odor, an additional condenser and accumulator was installed for the second and third units to reduce the steam relieved during the blowing operation. Each unit was provided with a separate concrete dump chest under the diffusers, each holding approximately 40 tons of pulp.

For the screening requirements of the three units, there are eight knotters, nine primary centrifugal screens, three centrifugal tailing screens and five flat screens, arranged for separate or combined operation of the individual units. Each unit is provided with two 8 x 8 vacuum deckers or a total of eight,



View in new Georgetown plant showing portion of the Swenson L.T.V. evaporator — the highest capacity black liquor evaporator to date.

AGAIN!

Swenson Evaporators

AT SOUTHERN KRAFT GEORGETOWN

Swenson evaporators needed no introduction to Southern Kraft. The continuous fine performance at Mobile and Panama City made Swenson the logical choice.

Like scores of other pulp mill operators, Southern Kraft appreciates the high capacities at high velocity which the L.T.V. (long tube vertical) design makes possible in continuous operation. Freedom from foaming troubles, no loss thru entrainment, and ability to fit into small building space are other important advantages.

The L.T.V. Black Liquor Evaporator is the result of years and years of face-to-face contact with black liquor recovery problems, supplemented by extensive development. Pulp men have confidence in Swenson recommendations.

SWENSON EVAPORATOR COMPANY
(Division of Whiting Corporation)
15687 Lathrop Ave., Harvey, Ill.

SWENSON

EVAPORATORS — FILTERS — CRYSTALLIZERS

which will also receive the white water from both pulp and paper mill sources.

Recovery Units

A total black liquor storage will be provided for 730,000 gallons in seven tanks arranged for delivery either to the digesters or the evaporators. The evaporator for the first unit consists of a five body quadruple effect, compounded in the first stage and for the second and third units a six body quintuplet has been provided.

The recovery furnaces are all of the Tomlinson type water tube waste heat boilers with water cooled black ash liquor furnaces. For the first unit there are three boilers, each with 3420 square feet of heating surface and for the second and third units, there are four boilers, each with 5265 square feet of heating surface, all arranged for generation of steam at 450 pound pressure at 750 deg. F. in conjunction with the power boilers. The concentrated black liquor is delivered into individual mixing tanks, serving each furnace. The boilers are provided with economizers, automatic combustion control and draft regulation.

The green liquor is treated in a Dorr continuous causticizing system, expanded by additional equipment to take care of a mixing capacity of 650 tons of pulp a day.

For the recovery of lime, the first unit is provided with a kiln—8 feet in diameter by 120 feet long, which will be supplemented by one additional 8 x 120 and two 9 x 120 kilns.

Paper Mill

Stock is prepared with Majestic type Jordans connected to 350 hp. synchronous motors, there being—ten for the first unit, twelve for the second and twelve for the third. These Jordans deliver into concrete mixing chests with parallel type agitators.

The machine room as laid out initially for the first unit provided space for the second machine, and the third unit is erected in a separate building parallel to it, arranged for future expansion to take care of a fourth machine.

The three machines provided by Pusey and Jones are practically similar, each arranged for a wire 234 inches wide and 90 feet long with 40 inch suction couch roll and removable Fourdrinier. The first and second presses are of the suction type with special arrangements for the third press.

The drying section of the first unit consists of 43 main dryers, 60 inches in diameter with one 42 inch drier and six felt driers. The second and third units each have eight additional main driers or 51 each.

The No. 2 machine is equipped with one 8 roll calender stack and No. 3 machine with two stacks. All of the three machines are equipped with Pope type uniform speed reel and Pusey & Jones two-drum unit speed winders, balanced for speed up to 3000 feet per minute.

The drive of all three machines is the latest type General Electric sectionalized individual motor drive with Selsyn control with the first drier section acting through the Selsyn as the master section for the whole. The winder is arranged with double motor drive with regenerating braking set for the unwinding roll.

Each machine is equipped with a transite hood with exhaust and supply fans for conditioning the room; calender blowers and hot air blast for felt drying. For felt conditioning, the machine is provided with two 20 inch suction felt rolls.

Serving the No. 1 and No. 2 machine rooms is one 15-ton five motor travelling crane with a similar one in the building housing the No. 3 machine. For disposition of broke and trimmings, each machine is provided with a 54 x 64 breaker beater in the basement.

Finishing Room

The equipment consists of one rewinder trimming 216 inch—two trimming 122 inch and one trimming 72 inch; also one 124 inch sheet cutter and layboy and one 84 inch knife cutter.

The finishing rooms are provided with light trolleys and electrically operated hoists for handling bag and other rolls coming off of the machines, for transportation on skids to shipping points, storage or the bag factory.

Power Plant

For the generation of steam at 450 pound pressure at 750 deg. F., for the three units there are three oil burning Stirling type boilers 470 hp. each and two 830 hp., which will operate in conjunction with the steam generated from the recovery boilers, as well as that generated from bark and refuse; the latter being burned under two integral type boilers, 762 hp. each, provided with fuel storage bins and Hofft stokers. These boilers are provided with air preheaters and are equipped with automatic combustion control.

Water treatment is to be obtained by the lime soda process, delivering into two de-aerating heaters.

One radial brick chimney, 12 feet in diameter and 250 feet high, serves the oil burning boilers and the refuse burning boilers and a similar stack serves the recovery unit.

The mill's power requirements of 26,000 KVA, is obtained from one 7500 KVA 2400 V. 3600 RPM automatic double extraction and condensing unit with one similar unit with 9375 KVA capacity. These two units provide extraction steam at 140 pound and 40 pound. A third—9375 KVA unit will also be provided operating against a back pressure of 40 pounds with a single extraction stage at 150 pounds. The main switchboard is of the cubicle type construction with remote control operating from the turbine room floor.

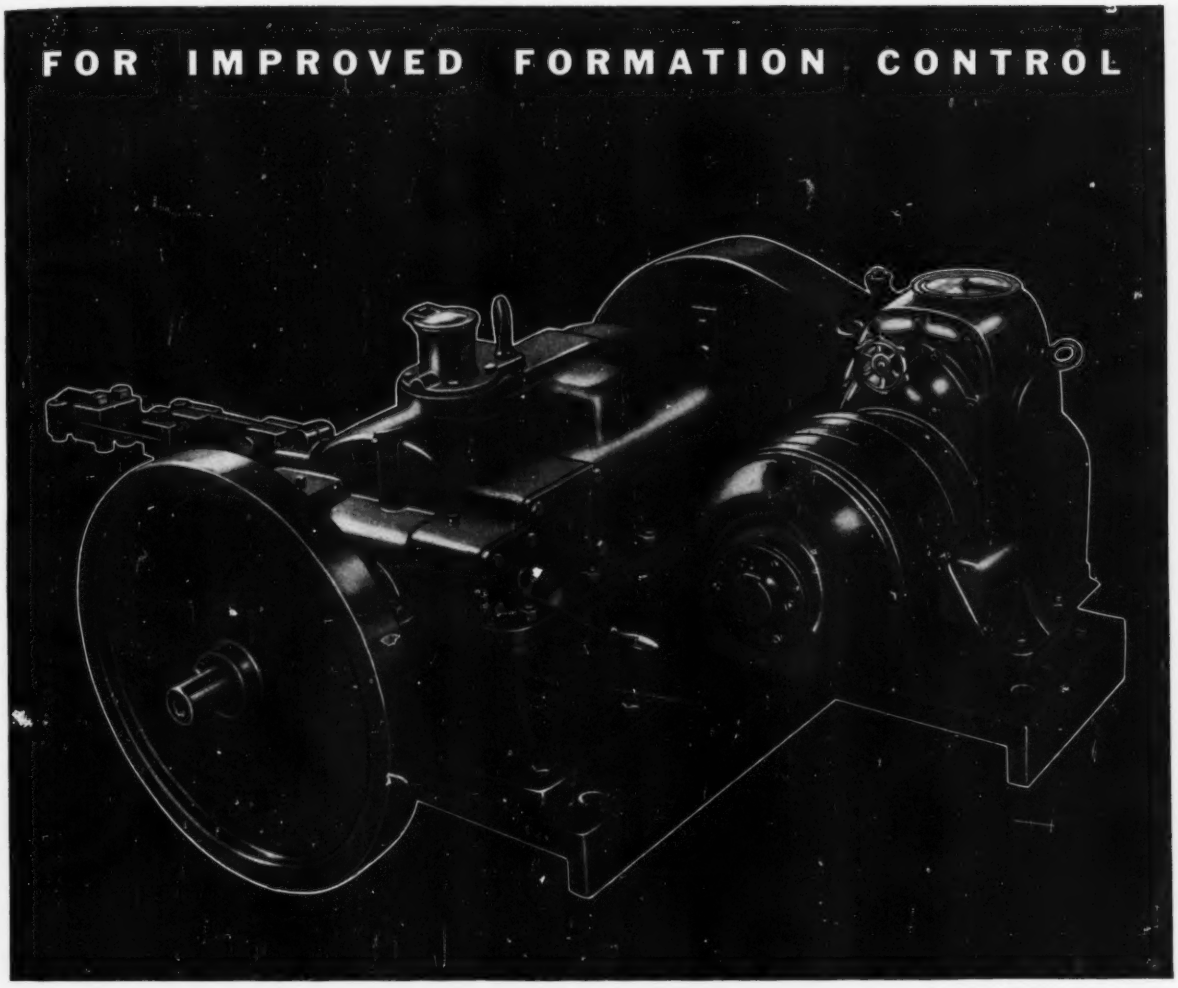
Water Supply

The process water for the mill is obtained from four 30 inch wells in various parts of the Company's property, each delivering from 3000 to 4000 gallons per minute with a small supplementary 10 inch well at 800 gallons per minute.

Pulp Storage and Shipping Building

A two-story building 285 feet long and 55 feet wide has been erected on the dock adjacent to the Savannah River and arranged with facilities for delivering pulp or paper to the tackle of incoming steamers. In this building there is at present located one 81 inch wet machine which will be supplemented by a Kamyr machine to deliver lapped pulp—at a combined capacity of 120 tons a day. A 54 x 64 inch breaker beater has also been installed in conjunction for returning stored lap pulp to the paper mill when exigencies require.

The dock paralleling this building is 700 feet long



THE SIMPLEX HIGH SPEED SHAKE

THIS shake unit has an application to either large or small Fourdriniers and is in successful operation in mills making a wide variation of grades. The flexibility of this unit as to speed and stroke, both adjustable while the machine is running, provides for improved formation control.

The amount of stroke can be varied from zero to 1" and the number of strokes per minute is controlled by a variable speed motor. This unit is particularly effective where high speed shake is required and will operate at any practical limits as to the number of shakes per minute.

With our SIMPLEX Fourdrinier, two or even three of these units may be installed on a common shaft, and by this arrangement the Fourdrinier may be given varying degrees of shake at different points along the forming table as may prove most effective.

Paper Making Machinery
THE BAGLEY & SEWALL CO
Watertown NY U.S.A.

The Mark of Craftsmanship

THE BAGLEY AND SEWALL COMPANY • WATERTOWN, N. Y.

and is of steel sheet piling construction, giving a navigable depth of 26 feet at low water. The end of this dock is provided with facilities for unloading wood from barges from a travelling crane.

Bag Factory

The bag factory building is on one level floor 197 feet wide and 525 feet long with an enclosed shipping track along one side. Additional bag machines have been installed bringing the total up to 120 machines with a capacity of 18,000,000 bags per day or 250 tons of paper. The storage and shipping space above mentioned has been supplemented by additional buildings, totalling approximately 70,000 square feet of floor area.

Auxiliary Equipment

The modern repair and machine shop which had been constructed for the first unit was made sufficiently large for future expansion and has been supplemented with additional lathes and presses. The laboratory is housed in a separate building 45 x 75.

A by-product building 150 x 50 feet has been constructed for the extraction of sodium resinate, linoleic and oleic acids and other fats and oils, to which will be added equipment for the extraction and distribution of turpentine.

Recreational Facilities and Housing

Approximately 125 acres have been sub-divided and improved for housing facilities of the workers; 25 houses have already been built for immediate occupancy. Adjoining this is the Mary Calder Park, which provides for a nine-hole golf course, a club house, baseball diamond, tennis courts, etc. These recreations will be under the direction of Union Athletic Association.

Wood Supply

Timbered lands have been purchased or leased and others have been taken under option in the territory surrounding Savannah. Considerable of this acreage is adjacent to the transportation facilities offered by the inland water ways, and the company has a fleet of 19 barges in operation to and from loading docks at various points along the waterways.

Personnel

The development, construction and operation of the Savannah plant were carried out under the leadership of James H. Allen, vice president of the Union Bag and Paper Corporation, aided by John T. Gamble, general manager, E. H. Mayo, operating consultant, and D. G. Moon, chief engineer.

George F. Hardy, consulting engineer of New York, was retained for preparation of plans and supervision of construction; A. G. Ready acting as resident engineer on the ground. The construction work is being carried out by Merritt-Chapman & Scott Corporation, contractors, of New York.

Goes With Knight, Allen & Clark

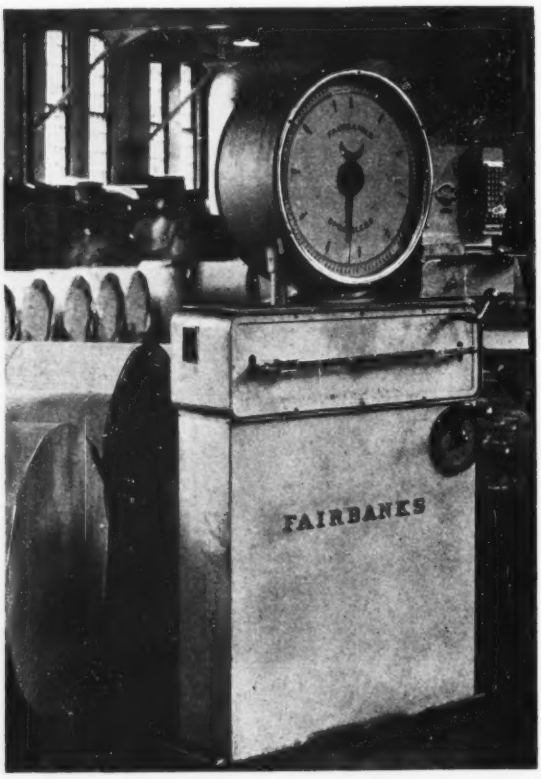
[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., November 23, 1937—Russell S. Madden, Jr., son of Russell S. Madden, vice president of the American Writing Paper Corporation, has taken a position as salesman for the firm of Knight, Allen & Clark of Boston, wholesale paper dealers.

Printomatics in Great Lakes Mill

Two Fairbanks dial scales with Printomatics (automatic weight printers) installed by the Great Lakes Paper Company, Fort William, Ont., Canada, make possible accurate and rapid weighing of paper and provide a permanent record of each weight taken.

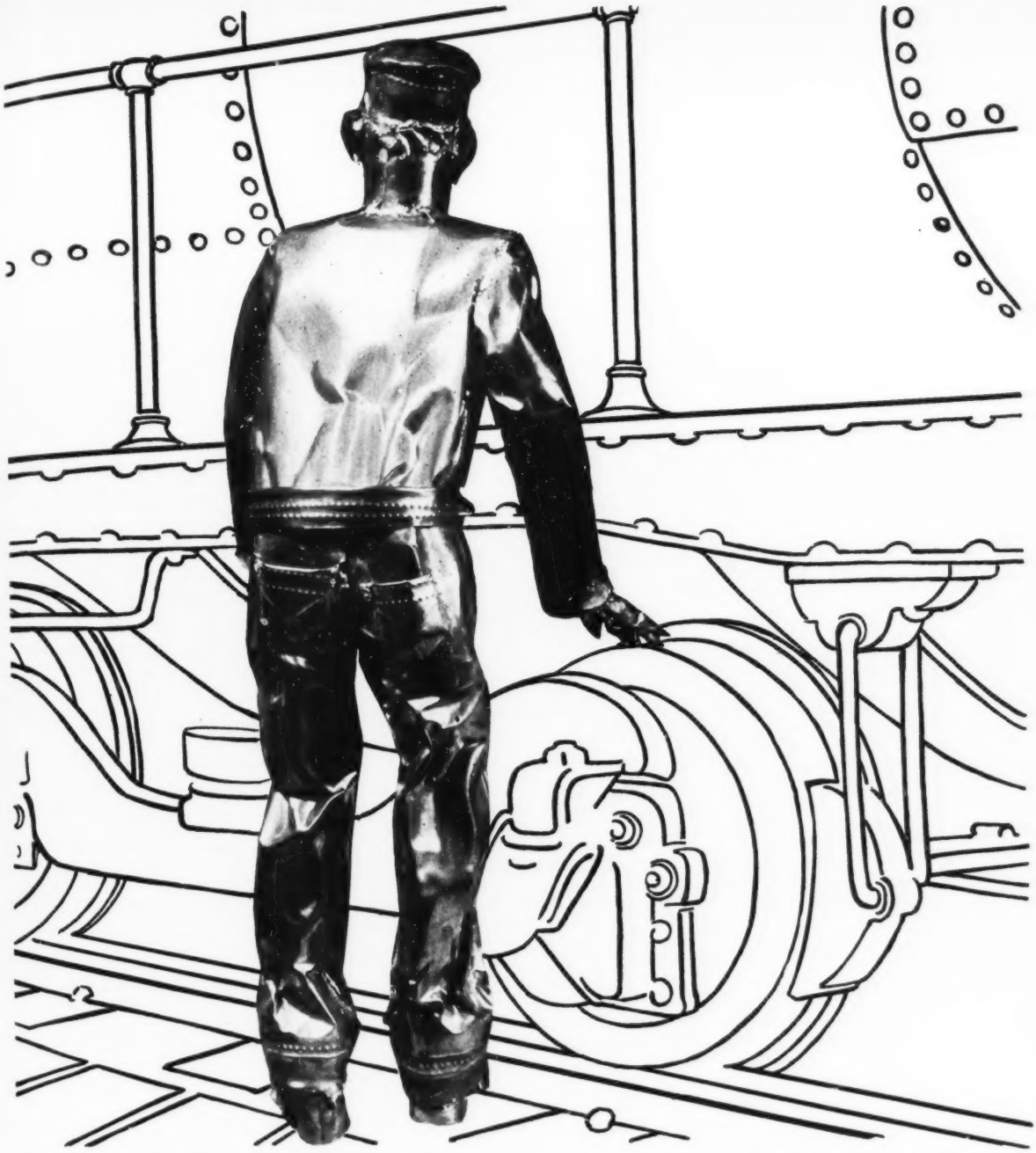
Each scale has a C-8 single-face dial which reads to 1000 lb. by 1-lb. increments; two auxiliary 1000-lb. weights can be used to make a total direct reading chart capacity of 3000 lb. The tare beam is graduated to 200 lb. by 1-lb. increments. Scale levers are of the suspension pipe-lever type with self-aligning bearings. The No. 12045 Printomatic has a bank of five designating numbers for identifying each roll and weight.



FAIRBANKS DIAL SCALE WITH PRINTOMATIC MOUNTED ON A PORTABLE LORRY. AUTOMATIC WEIGHT PRINTING ELIMINATES THE POSSIBILITY OF HUMAN ERROR IN READING AND RECORDING WEIGHTS.

The scales are mounted on portable lorries, along with pneumatic headers for heading the rolls of paper, and can be shifted about the warehouse floor over the lorry rails to whatever point they may be needed. Paper rolls are headed after they have been rolled onto the scale platform, weighed and weights recorded.

The weight of each roll of paper and its identifying number are automatically printed by the Printomatic on two copies of the company's shipping form and on a small "rejection slip." This slip pasted on the paper roll is assurance to the customer that he is getting full, honest weight. It may be detached and returned if a claim is registered for damage in transit.



EBG GETS A CLEAN BILL OF HEALTH . . . RUNNING GEAR CHECKED. *No cylinder drum or tank car is ever allowed to leave EBG's plant without a perfectly clean bill of health. A special staff of inspectors check every detail with military thoroughness. Running gear on tank cars, for example, is examined by a car inspector to make certain it is in perfect mechanical condition. It is part of an exacting system that insures a clean product, delivered in clean containers, guaranteed to give you the satisfaction of trouble-free operating service.*

•

ELECTRO BLEACHING GAS COMPANY
Main Office: 60 East 42nd Street, New York, N.Y.
Plant: Niagara Falls, N. Y.

EBG Liquid Chlorine
FIRST IN THE COUNTRY

Paraffine Co's Boast Unique Features

The felt manufacturing plant of the Paraffine Companies, Inc., at Emeryville, Cal., has several unique features which make it worthy of recognition. Among these items are several "firsts" in felt mill history.

In the first place it was the first mill to be erected on the Pacific Coast devoted exclusively to the manufacture of felt and rosin-sized sheathing. Felt had been made on paper board machines on the Pacific Coast, but the first full-time felt and building paper machine on the Pacific Coast turned out its first sheet on December 19, 1905, and a piece of that sheet is still preserved and is in good condition.

The Paraffine Paint Company (as it was then called) was the first roofing manufacturer to build a felt mill within the enclosure of his roofing plant, the entire source of the roofing plant's felt supply being comprised in the felt mill.

The Paraffine Paint Company erected the first reinforced concrete building in the San Francisco Bay region. This building housed the felt machine—an 86-inch Moore & White machine (which is still running) and the power plant which served the entire Paraffine Paint plant. This reinforced concrete building was subjected to the 1906 San Francisco earthquake five months after completion and the only damage which resulted was slopping the water out of the vat, thus breaking down the sheet, and the cracking out of a chunk of concrete weighing about 20 pounds at a point where an 8 x 8 inch "jack rafter" in the roof jumped up and down on its concrete bearing something like a live tarantula on a hot frying pan—the damage to this building was so slight that it was practically unnoticeable. The felt was started over the machine and 20 minutes of "down time" were charged to the earthquake.

This building is peculiar in that it does not have a continuous foundation, the wall pilasters resting on individual concrete blocks which in turn rest on groups of wooden piles. The walls of this building are still in use, the original roof having been replaced with a saw-tooth construction when vertical dryers were installed on the second felt machine.

The vertical driers are the first and only installation of their type on the Pacific Coast.

The Paraffine Companies,' Inc., mill had the first electric machine drive on the Pacific Coast, the original machine, installed in 1905, having been driven by a 75 hp. direct current motor. Electric drives have continued to be the rule at the Emeryville plant down to date.

It is interesting to note that in the third of a century of this mill's history it has had only two superintendents, the late C. R. Turner, and J. H. Varley.

Package Paper Co. Moves to Nashua

HOLYOKE, Mass., November 23, 1937—The Package Paper Company Division of the Nashua Gummed & Coated Paper Company has moved from Canal street in this city to Nashua, N. H. The Package Paper Company was absorbed by the New Hampshire concern about two years ago. A new factory has been built at Nashua enabling the local concern to be housed there.

EMERYVILLE PLANT WHERE IMPORTANT IMPROVEMENTS HAVE BEEN MADE.

New Application for Fibrous Glass

A new application for fibrous glass manufactured by the Corning Glass Works has been developed by the American District Steam Company, North Tonawanda, N. Y., for the insulation of underground steam lines. Known as ADSCO-Corning Filler Insulation, it is composed of long, flexible fibers of true glass in a soft resilient mass resembling cotton batting but possessing the permanence and chemical characteristics inherent in glass.

It has been proven by tests to possess a high thermal insulation efficiency with a very low conductivity rate of 0.33 at 4 lbs. density. It fluffs under vibration instead of packing, settling or disintegrating under such conditions. It is fireproof and unaffected by water, acids or fumes. It is exceptionally light in weight, being from ½ to ¼ the weight of other types of insulating materials. It will not corrode pipes when dry or in the presence of water. It will not compress when thoroughly saturated with water and when dried out, it retains its original form without expansion.

It is packed in strong paper bags at a density which is suitable for maintaining a thermal insulation efficiency for pipe lines operating at a mean temperature of 650° F. or it can be supplied for higher temperatures where required.

ADSCO-Corning Filler Insulation is illustrated and described in Bulletin No. 35-67 which is available by addressing the American District Steam Company, North Tonawanda, N. Y.

Germany Uses More Chemical Pulp

The increased demand for chemical wood pulp in Germany is reflected in the foreign trade returns published by the German Government, which show imports for the first 8 months of the current year exceeding those of the corresponding period in 1936 by 6 per cent while exports for the same period show a drop of 41 per cent. Incidentally, imports and exports of chemical pulp more nearly balance each other this year than has heretofore been the case, the former totaling 108,583 metric tons and the latter 120,335 metric tons.

Production figures are available only for the first six months of the current year. The output of chemical pulp up to July 1 was reported as aggregating 697,641 metric tons as against 657,937 metric tons for the first half of last year, an increase of 6 per cent.

Harrington Paint Co. Add Items

The Harrington Paint Company, 1630 Collamer Avenues, East Cleveland, Ohio, since it announced its chlorinated rubber coatings for protection against acid and alkaline attack, has developed two other items that will prove of interest to the paper industry.

The first product is known as Galvide, which gives perfect adhesion to galvanized iron without any acid etching or special processing being required before Galvide is applied. This also provides protection from the attack of inorganic acids and alkalies.

The other product is known as Rust-Eeter No. 100, which is a rust conversion primer that will give absolute protection against further oxidation and does not require the surface to which it is applied to be clean of rust. This also provides protection against the attack of inorganic acids and alkalies.

Executive's Data Book

It was around the turn of the Twenties that the "Little Black Book" carried by Richard P. Ettinger, president of Prentice-Hall, Inc., 70 Fifth avenue, New York, began to claim the attention of his friends and associates. It seemed that the "Little Black Book" knew all the answers to the general business questions that might come up. In addition, it kept a faithful record of his appointments and daily memos.

As the fame of the "Little Black Book" grew, friends in increasing numbers requested copies for their personal use. Finally, because of these numerous requests, it was decided to publish enough to go 'round.

With this in mind, the information was broadened in scope, sifted, and condensed to fit general executive use. For example, you can turn to the book and get quick, accurate information on such subjects as: (1) the surtax on a given income; (2) the dates on which to pay installments under Title IX of the Social Security Act or when to file and pay the Capital Stock Tax; (3) maps showing the location of certain cities and countries; (4) a brief outline of the Law of Contracts.

In addition, the book has convenient references on such valuable topics as: Important Facts about Cities, Telephone and Telegraph Information, Time Difference Between U. S. and Foreign Cities, Postal Information, Social Security Taxes and Table of Benefits, Chain Discount Equivalents, Calendars for 1937, 1938 and 1939, Diary Pages for Daily Memos and Appointments. To describe its contents more correctly, the "Little Black Book" is now called the Executive's Data Book.

The book contains 195 pages and sixteen maps and sells at $1.00.

New Pressed Steel Frame Pumps

A new line of pressed steel frame mounted ball-bearing centrifugal pumps is described in recent literature issued by Worthington Pump and Machinery Corporation, Harrison, N. J. Available for belt or motor drive, these type CF pumps are suitable for handling capacities from 10 g.p.m. to 300 g.p.m., at heads from 10 ft. to 120 ft.

Interesting sectional views of these pumps included in the bulletins illustrate the new YU type pressed steel frame. "Stronger than iron and yet ductile enough to withstand vibration, shock and distortion" is the Worthington description.

Equipped with two grease-lubricated ball bearings, these modern single-stage units should serve a wide range of uses. Bulletin W-310-B7 covers the belt-driven units and W-310-B8, the motor-driven.

Nickel Alloy for Hand Tools

In a bulletin under the above title, The International Nickel Company, with executive offices at 67 Wall street, New York, describes the use of alloy steels for small power tools, and in hand tools, such as wrenches, hammers and screw drivers, where high strength, toughness and better ductility are required.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, of Pulp and Paper Mills

General Construction News

Hamilton, Ohio—The Beckett Paper Company, manufacturer of bond and writing papers, card stocks, etc., has approved plans for new two-story addition to mill on Buckeye street, for which superstructure will begin at early date. General erection contract has been let to F. K. Vaughn, Hamilton. Cost estimated close to $50,000, with equipment. Mueller & Hair, Hamilton Bank Building, Hamilton, is architect.

Mobile, Ala.—The National Gypsum Company, 190 Delaware avenue, Buffalo, N. Y., manufacturer of wall board and allied products, has active work under way on new branch plant on Mobile Bay, Mobile, previously referred to in these columns, to be used exclusively for the production of insulating fiber board products. Completion is scheduled by next spring. Buildings formerly used by the General Cable Company, included in site purchase, are being modernized and improved, and new units erected. Entire project will represent a total investment of close to $1,000,000, and plant will give employment to large working force in different divisions. The H. K. Ferguson Company, Hanna Building, Cleveland, Ohio, is general contractor for plant. M. H. Baker is president. Jere Massey will be works manager at new mill.

New York, N. Y.—The Merriam Paper Company, 150 Lafayette street, wholesale paper stocks, has leased a seven-story building at 135 Hudson street, totaling about 30,000 square feet of floor space, and will occupy for expansion in storage and distributing departments, and general operating offices. Structure will be improved for early occupancy, when company will remove from present location.

Middletown, Ohio—The Crystal Tissue Company, manufacturer of tissue, kraft and other paper stocks, has plans nearing completion for new addition to power house at mill, and will ask bids on general erection contract at early date. It will be one-story type, 39 x 56 feet, and 44 feet high. As recently noted in these columns, awards are being made for certain equipment, including 2000-kw. turbo-generator unit and accessories to General Electric Company, Schenectady, N. Y., and condenser to the Elliott Company, Pittsburgh, Pa. A contract also has been let to the Stephens-Adamson Manufacturing Company, Aurora, Ill., for coal-handling equipment. At later date, awards will be placed for switchboard, piping and other equipment. Walter I. Barrows, Reibold Building, Dayton, Ohio, is consulting engineer.

Manistique, Mich.—The Manistique Pulp and Paper Company is running on normal production schedule at local newsprint mill, with regular working force in different departments. With heavy inventory of pulp wood, company has announced that it will purchase about 15,000 cords of spruce and balsam for this season, or approximately 3,500 cords less than normal requirements. Balsam is now selling for about $1.00 a cord higher than last season, while spruce is 75 cents a cord higher.

Enka, N. C.—The American Enka Corporation, Enka, near Asheville, manufacturer of cellulose rayon products, will build other additions to mill beyond that referred to in these columns recently, with a total expansion and improvement program to cost approximately $500,000, with equipment. New units will be built for general mill service, storage and distribution. A low bid for building contract has been secured from the Daniel Construction Company, Anderson, S. C., and award is scheduled to be made at early date. Completion is planned next spring. Main offices of company are at 271 Church street, New York, N. Y. A. J. L. Moritz is vice-president.

Long Island City, N. Y.—The Clopay Corporation, Dayton and McLean streets, Cincinnati, Ohio, manufacturer of paper products, has leased space in the National Carbon Building, Queens Boulevard, Long Island City, totaling about 21,000 square feet of floor space, and will occupy for new Eastern factory branch, storage and distributing plant. Company will take possession at once.

New York, N. Y.—The American Label Company, 216 West 18th street, manufacturer of paper labels and kindred paper specialties, has organized a new affiliated interest to be known as the General Lithographic Corporation, which will operate a paper-converting plant at same location. Robert P. Schambach is president and treasurer of new company; and John F. McKenna, vice-president and sales manager.

Amcelle, Md.—The Celanese Corporation of America, Inc., Amcelle, near Cumberland, manufacturer of cellulose rayon products, has completed plans for new one-story addition to mill, for which superstructure will begin soon. Award for structural steel framing has been made to the Belmont Iron Works, Twenty-second and Washington streets, Philadelphia, Pa. Cost reported over $100,000, including equipment.

Cly, Pa.—The National Roofing Manufacturing Company, York, Pa., manufacturer of prepared roll roofing products, plans early rebuilding of portion of mill at Cly, near York, recently destroyed by fire.

Loss estimated close to $150,000, including equipment.

Kenora, Ont.—The Kenora Paper Mills, Ltd., manufacturer of newsprint, a subsidiary of the Minnesota and Ontario Paper Company, Builders' Exchange Building, Minneapolis, Minn., has approved plans for a new addition to boiler house and for an electric power substation at local mill. First noted will be 26 x 30 feet, equipped for expansion in steam plant. The power substation will be one-story, 30 x 50 feet, and will be connected with the lines of the Winnipeg Electric Company, Winnipeg, Man., which is furnishing power for the mill. Erection contract has been let to the P. A. Laurence Company, Builders' Exchange, Minneapolis, and work will be placed under way at once.

Hamilton, Ont.—The Consolidated Sales Book Company, manufacturer of commercial paper products, plans rebuilding of portion of paper-converting plant recently destroyed by fire. Loss estimated close to $100,000, including equipment.

New Companies

Brooklyn, N. Y.—The Old Falls Paper Mill Corporation has been chartered with capital of 100 shares of stock, no par value, to manufacture and deal in paper products. New company is represented by Herman & Hoberman, 16 Court street, Brooklyn, attorneys.

Chicago, Ill.—The Cosmetic Container Corporation, 105 South LaSalle street, has been chartered with capital of 10,000 shares of stock, no par value, to manufacture cardboard boxes and containers. The incorporators include J. W. Fraser and I. G. Brown. Company is represented by Frederick A. Thulin, first noted address, attorney.

New Handling Attachment

The Baker-Raulang Company, Cleveland, has just announced a new motorized roll-handling attachment for any of its standard narrow-carriage Fork-type trucks which makes the truck a revolving roll handler. With a truck so equipped, rolls of newsprint, kraft, or other paper may be picked up on end or on the side, rotated 90 degrees, and stored or tiered in either position. This attachment is so constructed that it may be easily removed from the truck in a a very short time and replaced with the usual forks for the handling of baled pulp or other material in the mill or the warehouse.

MOTORIZED ROLL-HANDLING ATTACHMENT

The roll handling attachment is available in capacities up to 6,000 pounds and for rolls up to 50 inches in diameter. The roll shown in the photograph is 48 inches in diameter, 82 inches long, and weighs 4,200 pounds.

In construction, the attachment consists of a scoop or cradle fabricated from formed and arc welded high-carbon steel plate fastened to a heavy ball-bearing trunnion block on which it rotates. This cradle is adjustable on the trunnion so that rolls of varying lengths may be centered. The driving mechanism is a standard Baker ball bearing, totally enclosed motor which rotates the cradle through a gear train and a roller chain and sprocket system. The motor controller is mounted on the truck chassis and has a spring return to neutral for safety while the multiple-conductor cable to the motor is provided with a multi-point quick-connector plug so the connections may be easily broken or re-made when the attachment is removed from or applied to the truck.

Recent Oliver United Developments

Oliver United Engineers have perfected an efficient 2-way valve with clean and cloudy ports for use in handling machine white water on groundwood deckers or savealls, thus permitting the operator to re-use the clear filtrate in the machine showers. In one groundwood decker installation the setting is 40 per cent cloudy, 60 per cent clear with the clarified white water going back to the paper machine.

Another development has been the deckering of refined sulphite and groundwood screen rejects. This was made possible by the use of the Oliver patented vacuum discharger.

One of the advantages in operating an Oliver-Young decker or washer is that it maintains a high vacuum in each section. This permits the use of very short barometric legs which in turn enables the operator to locate the filter directly adjacent to the cross flow box at the end of the flat screens. Several units have already been so installed, saving in building space and installation cost. It also overcomes the necessity of elevating the decker to the necessary height for a long barometric leg.

Oliver United Engineers believe they have solved the serious problem of foaming when washing counter-currently with the Oliver-Young Filter as the washer. It is well known that maximum foaming in black liquor occurs when air is mixed with liquor at certain densities. It's much like blowing soap bubbles. Too much or too little soap results in little foaming but get the right amount of air and soap mixture and bubbles will form in large quantities.

Usually in brown stock washing the problem of foaming is most serious in secondary washing. It is here that the density of liquor is most conducive to foaming. The Oliver counter-current washing system makes use of very little "wash water." This is added at the last stage. The diluted liquor is carried forward, building up the density at each stage. When the density is most likely to cause foaming, the unique design of the Oliver-Young filter is most advantageous. The filter drum acts as a receiver. The air drawn in with the wash liquor quickly separates out in the filter drum.

Automatic Wrapping Machine

The Hudson-Sharp Machine Company of Green Bay, Wis., announces a newly engineered and basically patented machine for automatically wrapping toilet rolls, towel rolls, waxer paper rolls or any other article of cylindrical form.

The machine has been in continuous operation for a year in one of the larger paper industries on a three shift basis. It has a capacity of 70 rolls of toilet paper per minute with a proportional speed on other products lending themselves to this type of wrapping.

The production of this unit ends several years of research and engineering. It is operated with photo-electric cells providing the medium for accurate spotting of the wrapper and for cutting it to length desired. Product is delivered in line for easy inspection and rapid packing.

The machine will automatically care for any variation in diameter of the product fed into it for wrapping. Stock of labels may be changed to new design and machine adjusted for different sized rolls in a minimum of time.

The particular design of this machine lends itself to a wide variety of product requiring accurate wrapping on a production basis. Design may be modified or expanded to meet such requirements.

It is claimed that the machine is so simple in its operation that any ordinary operator may be trained to adjust and run this machine after a short course of instruction by men furnished by the manufacturers.

Seaboard to Fight Forest Fire Menace

NORFOLK, Va., November 22, 1937.—In line with the recently instituted forestry program of the Seaboard Air Line Railway, comes the announcement that intensive efforts are being made by the section forces of the Railway to lower fire losses caused by forest and other fires adjacent to the Line's right of way.

H. A. Benton, general manager, said today that the rapid development of the paper mill industry in Seaboard territory with the accompanying demand for wood and more extended use of forest acreage had made it necessary for the Railway's forces to intensify its efforts in keeping down the forest fire ratio. This is being done by close cooperation with local owners, the Forest Service and various communities. Instructions have been given to section forces that when they discover fires to do all they can to extinguish them.

The Seaboard has always been extremely careful in burning right-of-way and seeing to it that no fires are permitted to get out of control, Mr. Benton said.

Suspend Michigan Freight Tariffs

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 24, 1937—The Interstate Commerce Commission has announced the suspension of certain motor freight line tariffs until February 16 next which propose to establish reduced rates on paper and paper articles between points in Michigan on the one hand and points in Illinois and Indiana on the other.

Delay Newfoundland Sulphite Mill

According to word from Newfoundland decision of the Government on the granting of the right to erect a sulphite mill in the Gander Lake district of Bowater Lloyds Company of London has been delayed while the company sought an extension of its option on the property concerned. When the company first approached the Government with proposals for the mill's establishment, they asked renewal of leases on all properties concerned on a 99-year basis; freedom from import duties on machinery, construction material and material used in manufacturing, and exemption from all taxes other than income assessments. The company also asked the right of compulsory acquisition of land for purposes of the company; construction by the Government of a railway from the mill to the main line of the Newfoundland railway, and unrestricted export of pulpwood from their properties up to an amount that would not endanger supplies for the mill.

"Beyond The Rainbow" Available for Showing

The Calco Chemical Company, Inc. announces that their new film "Beyond the Rainbow" is now available for private showings. This film, which dramatically tells the story of the dye industry, is unusual because it is the first time that sound has been used on 16 mm. color film.

Another development in which Calco has pioneered in producing "Beyond the Rainbow" is in duplicating color on 16 mm. films. Six prints were made, and all are just as vivid and colorful as the original. The film itself is both educational and entertaining and takes 44 minutes to show.

Clubs, universities, schools, associations, etc., that are interested in securing this unusual picture should write to the Motion Picture Laboratories of The Calco Chemical Company, Inc., at Bound Brook, N. J.

Goes With Connecticut Blower Co.

The Connecticut Blower Company, established 1908, Hartford, Conn., announces that Charles H. Keeney, who prior to 1928 was connected with them for 18 years, has again become associated with the company as general manager and chief engineer. Mr. Keeney, a mechanical engineer, graduate of Hillyer Institute and a native of Connecticut, has a wide experience of over twenty-nine years, technical and practical, in the Blower field, specializing in the design, fabrication, installation and sale of high efficency dust collecting and ventilating systems. He has invented and patented fifteen machines, products and systems in the air handling equipment line.

To Handle Groveton Advertising

R. E. Dunbar, a salesman in the Boston office of the Groveton Paper Company, Inc., of which W. N. Munroe, Jr., is manager, has taken over the advertising for the Groveton Paper Company, and will have his headquarters at the New York office of the company, 299 Broadway. George Lewis will take over Mr. Dunbar's duties at the Boston office.

PAPER TRADE
ESTABLISHED 1872
JOURNAL

Reg. U. S. Pat. Off.

George S. Macdonald, Pres. *Joseph P. Horgan, Secy*
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Henry J. Berger
EDITOR

Ronald G. Macdonald
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COMING EVENTS IN THE PAPER INDUSTRY

NEW ENGLAND SECTION, Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Nonotuck Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION, Technical Association of the Pulp and Paper Industry—Second Friday of each month at the Engineers Club Philadelphia, Pa.

LAKE STATES SECTION, Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION, Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park-American Hotel Kalamazoo, Mich.

THE MILL NUMBER

The PAPER TRADE JOURNAL this week presents its description of new mills and mill improvements that have been completed during the past year, as well as new machinery and equipment of a deserving character that has been introduced in the recent past. In this way, it is possible to present a most effective Annual Mill and Mill Equipment Number. This number is intended to furnish, as far as possible, a birdseye view of the progress of the industry for the year. It is not possible, of course, to print a full description of all the new mills that have gone into operation during the year or to notice all the improvements to paper mill properties that have been made throughout the country, but enough matter is printed in this issue to furnish a good cross section of what has been taking place in the industry.

Beyond any doubt, the year has been the most active not only in the building of new mills but in the way of important improvements that has ever been experienced in the pulp and paper industry.

The South, naturally, has continued to hold the center of the state in this respect. In this territory, influenced by recent developments which has emphasized the great importance of Southern pine as a paper making material, one venture after another has been announced with magical suddenness until, at the present time, some 20 great new mills have been erected or are now in the process of building, or will be built shortly, at a total cost, conservatively estimated, of $100,000,000.

These new mills for the most part, as might be expected, are sulphate pulp and kraft paper and board mills, but include also some interesting diversions from this line of pulp and paper, which has been made in the South for some time past. These entirely new ventures include the manufacture of bleached sulphate pulp at the mill of the Champion Paper and Fibre Company, Pasadena, Tex., and the Brunswick Pulp and Paper Company, Brunswick, Ga., bleached sulphite pulp at the mill of the Fernandina Pulp and Paper Company, Fernandina, Fla., and, last but probably most interesting of all, bleached sulphate rayon cellulose at the mill of the Southern Kraft Corporation, at Spring Hill, La. The new line will be in addition to the manufacture of sulphate pulp and kraft paper for which the mill at Spring Hill was originally designed. This will be the first mill to make this variety of pulp, not only in the South but anywhere on the North American Continent.

While there have been numerous rumors regarding the manufacture in the South of newsprint from Southern pine, nothing of a material character along these lines has developed as yet. One concern at least has been organized for this purpose and a site has been selected but no construction work has been started, and, so far as can be learned, is not likely to be in the very near future. This is a development, however, that will be undertaken in the South, it is asserted by men whose judgment in such matters deserves respect, before a great deal of time has elapsed.

Outside of the South few mills of any large size or representing any great investment have been built, but the improvements to going mills of more or less importance have been unusually large and have involved the investment of millions of dollars.

The most outstanding development of the year in Canada was the practical completion of the great newsprint mill of the Ontario Paper Company at Baie Comeau, on the north shore of the St. Lawrence, some 160 miles below Quebec City. In addition to the huge pulp and paper mill, the company is building a hydro electric plant with a capacity of 60,000 h.p. and is erecting a model town that will eventually be populated by 5,000 inhabitants. Those in authority believe that this great project will involve the expenditure of $30,000,000 before it is thoroughly completed. Although the original plans called for the completion of the paper mill in the summer of 1938, it is now believed that the first newsprint will come from the machine around January 1, about six months in advance of the original schedule. The Ontario Paper Company, the owner of the new mill, is a subsidiary of two great daily newspapers, one in Chicago and one in New York.

This great undertaking, therefore, seems to show an abiding confidence in the future of Canada as a producer of newsprint by interests whose experience and success in the publishing field is enviable to say the least.

Sulphate First Made at Roanoke Rapids

Wilton, Conn., November 22, 1937

EDITOR PAPER TRADE JOURNAL:—

In the TAPPI Section of your issue of October 28, appears an article by J. H. Allen, entitled "The History of Pulp and Paper in the South". Mr. Allen gives credit to the mill at Roanoke Rapids, N. C. for being the first to turn out "butchers' fiber". He did not, however, go far enough with crediting Roanoke Rapids, as it is also the first commercial plant to convert Southern pine by the sulphate process. While Roanoke Rapids made butchers' fiber by grinding southern pine, the chemical pulp to go with this came all the way from Michigan and was high cost pulp by the time it reached its destination.

The late Joseph H. Wallace, being familiar with the sulphate process abroad, interested the Roanoke Rapids Paper Manufacturing Company in the idea of replacing sulphite with sulphate made from southern pine, and ultimately to change the paper mill over to the making of sulphate (kraft) papers.

This first commercial sulphate pulp unit consisted of two 30 cubic meter welded tumbling barrel digesters and six 32 cubic meter welded diffusers, made in Germany. The evaporator of the Carlson type, made in Sweden, was also imported into this country and the first cook was blown on February 26, 1909. Incidentally, the Roanoke Rapids Mill also has to its credit the fact that it is the first on this continent to use the diffusion system of pulp washing.

Following the commercial demonstration of the Roanoke Rapids unit, Mr. Wallace went further into the development of Southern pine for sulphate, his next venture being the Southern Paper Company at Moss Point, Miss.

An article appearing in the PAPER TRADE JOURNAL, under date of July 16, 1925, by John D. Rue of the United States Forest Products Laboratories, dealing with pulp and paper making in the South, says with regards to the sulphate process "It was not brought to North America until 1907, when a mill was erected at East Angus, Quebec, to be followed soon after by the first plant designed for the process in the United States at Roanoke Rapids, N. C.

Trusting the above will be of interest, I am

Yours very truly,

THOMAS R. H. MURPHY.

To Be Mill Manager for Provincial

HOLYOKE, Mass., November 23, 1937—Stephen G. Staples of Pinehurst road, left last week for Thorold, Can., where he is to be the mill manager for the Provincial Paper Company. He succeeds the late Ernest Bush who died several months ago. Mr. Stapley and the late Mr. Bush were close friends.

Mr. Stapley learned the papermaking business in England coming to Holyoke in 1912. He was 23 years with the Chemical Paper Manufacturing Company and five years ago was made assistant general superintendent of that mill. He was transferred to have charge of the new machine at the Crocker-McElwain mill about six months ago.

Production Ratio Report

These statistics are based upon paper production reports to the American Paper and Pulp Association.

COMPARATIVE MONTHLY SUMMARIES

Months	1937	1936	1935	1934
January	90.3%(c)	76.1%	65.8%	.....
February	90.1%(c)	77.9%	70.0%	.....
March	90.3%(c)	76.0%	70.5%	.....
April	92.1%(c)	82.3%	70.0%	.....
May	90.6%(c)	81.6%	69.4%	.....
June	87.3%(c)	80.7%	72.3%	.....
July	81.8%(c)	77.3%	64.9%	.....
August	82.9%(c)	81.5%	70.9%	.....
September	78.6%(c)	80.5%	71.9%	58.2%
October	73.7%(c)	87.6%	75.6%	64.7%
November	.....	88.0%	75.3%	61.7%
December	.....	85.9%	71.2%	59.6%
Year Average	.....	81.3%	70.5%	.....
Year to Date First 45 weeks	84.7%	80.4%	70.2%	.....

COMPARATIVE WEEKLY SUMMARIES

CURRENT WEEKS, 1937		CORRESPONDING WEEKS, 1936	
*October 9	77.0%	October 10	87.1%
*October 16	74.8%	October 17	87.6%
*October 23	74.1%	October 24	88.2%
*October 30	68.8%	October 31	89.7%
*November 6	63.9%	November 7	87.0%
*November 13	58.0%	November 14	87.6%

The following statistics show the number of mills reporting by ratio groups:

	Number of Mills Reporting, Current Weeks					
Ratio Limits	Oct. 9, 1937	Oct. 16, 1937	Oct. 23, 1937	Oct. 30, 1937	Nov. 6, 1937	Nov. 13, 1937
0% to 50%	95	114	103	102	108	114
51% to 100%	222	202	213	215	200	112
Total Mills Reporting	317	316	316	317	308	226

* Subject to revision until all reports are received.
(c) Basic capacity data have been adjusted to correspond with ratings reported by individual companies.

PAPERBOARD OPERATING RATIOS

According to reports from the National Paperboard Association, per cents of operation, based on "Inch-Hours", were as follows:

Mos.	1937	1936	1935	1934	Mos.	1937	1936	1935	1934
Jan.	80%(e)	61%	61%	....	July	67%(e)	69%	59%	....
Feb.	86%(e)	67%	67%	....	Aug.	74%(e)	75%	65%	....
Mar.	87%(e)	68%	67%	....	Sept.	70%(e)	76%	69%	62%
April	89%(e)	70%	61%	....	Oct.	66%(e)	82%	76%	63%
May	86%(e)	68%	61%	....	Nov.	....	79%	70%	56%
June	75%(e)	68%	65%	....	Dec.	....	74%	60%	52%

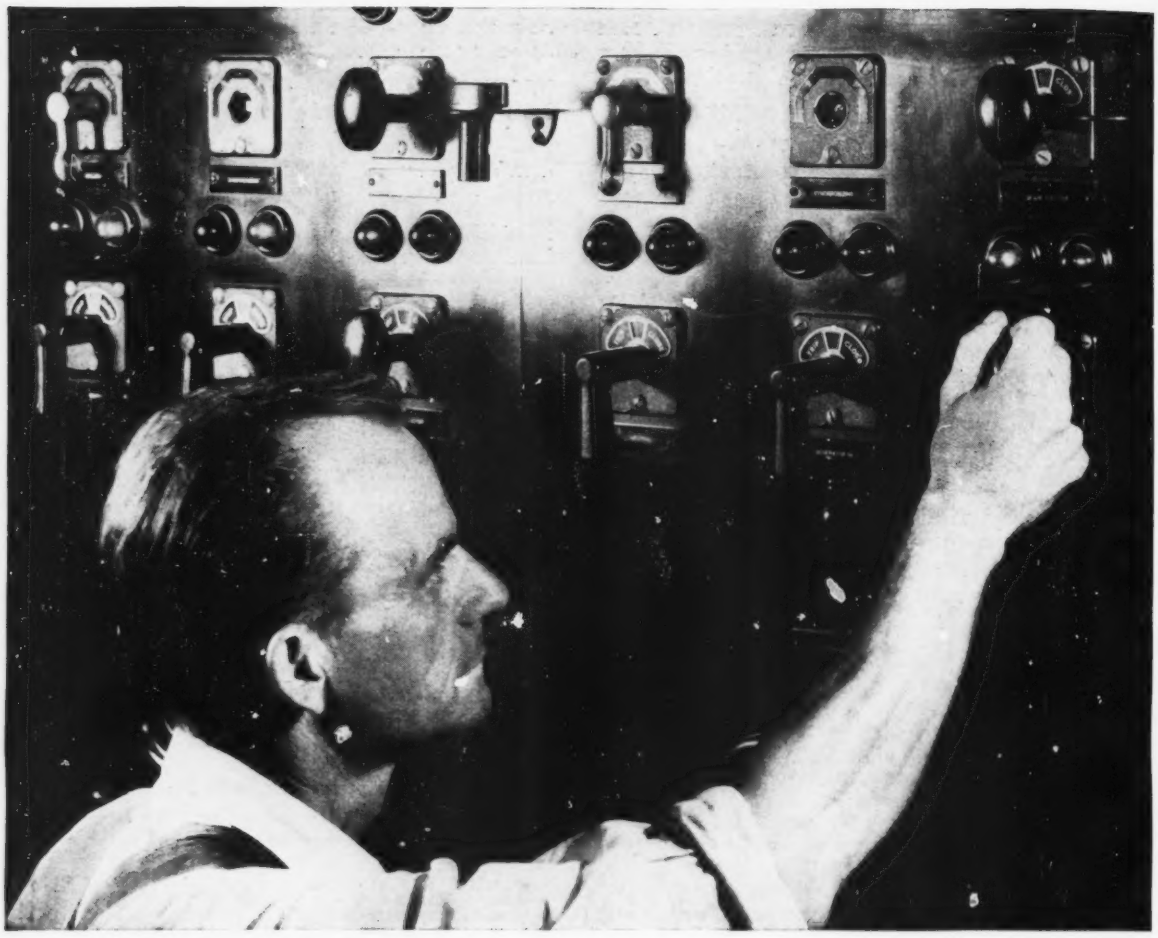
Week end. Oct. 9, 1937—67%
Week end Oct. 16, 1937—68%
Week end. Oct. 23, 1937—64%

Week end. Oct. 30, 1937—62%
Week end. Nov. 6, 1937—56%
Week end. Nov. 13, 1937—57%

(e) Basic figures revised to include new members of the National Paperboard Assn.

To Build $1,000,000 Chlorine Plant

The Michigan Alkali Company, Wyandotte, Mich., has plans maturing for a large new plant unit for the production of chlorine and caustic soda under a special English process, for which rights have been secured from the Imperial Chemical Industries, Ltd., London, England. The new plant will consist of several units and will use an electric-mercury cell process of manufacture, with initial capacity for about 100 tons of chlorine and 120 tons of caustic soda per day. The new plant will be the only one of its kind in the United States and will supplant the lime-soda process for the production of caustic soda heretofore used by the company. Additional generating equipment will be installed in power plant at the works to provide power supply for the new plant, which will be located near the present South works of the company at Wyandotte. Construction will be carried out by company forces, and erection is scheduled to begin early in 1938. The project will represent an investment of about $1,000,000.



The More Power to Him!

A CHANCE visitor might attribute C. J. Dorst's passion for keeping everything "just so" to temperament or to plain fussiness. But as power plant operator at Mathieson's Lake Charles plant, Dorst's job carries responsibilities which call for precisely this sort of thoroughness.

For not only must power service throughout Mathieson's plant be continuous. Its output must be closely controlled; voltage and frequency must be kept within narrow limits; generators must be accurately synchronized. Only in this way can Mathieson take full advantage of the low-cost raw materials and fuel at Lake Charles, and translate these into outstanding quality for its products.

Mathieson's generating equipment at Lake Charles comes as close to perfection as the rest of the units in this modern alkali plant. Yet all this equipment would mean little to you were it not for the supervision of men like C. J. Dorst. In large measure, it is these men—faithfully handling hundreds of "big little" jobs—who make Mathieson an organization to which you can look with unwavering confidence.

The MATHIESON ALKALI WORKS (*Inc.*)
60 East 42nd Street New York, N. Y.

Soda Ash . . . Caustic Soda . . . Bicarbonate of Soda . . . Liquid Chlorine Bleaching Powder . . . HTH and HTH-15 . . . Ammonia, Anhydrous and Aqua PH-Plus (Fused Alkali) . . . Sulphur Chloride . . . CCH (Industrial Hypochlorite) Dry Ice (Carbon Dioxide Ice)

Mathieson Chemicals

Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Pacific TAPPI Meets at Port Angeles

The Pacific Section of the Technical Association of the Pulp and Paper Industry had one of their local dinner meetings at Port Angeles, Wash., on November 9. This meeting was held in the Port Angeles Country Club, and the arrangements were in charge of Harold Fretz of the Olympic Forest Products Company. We are enclosing a list of the people attending.

After the dinner a motion picture entitled "Beyond the Rainbow" was shown by A. M. Mears and Wm. Marshall, representatives of the Calco Dye Company in this district. The picture was followed by a summary of the paper which Mr. Marshall had prepared on the use of dye-stuff. This was followed by some discussion in which Mr. H. A. Des Marais of the General Dyestuff Corp. made some remarks on the part that color plays in our lives and also the value of color in the sale of any product. R. S. Carey, of the National Aniline and Chemical Company, acknowledged an introduction by the Chairman.

D. E. Hoffman, of the U. S. Forest Service, addressed the meeting on the subject of the increasing importance of pulp making in the Northwest. This talk was intended to increase the consciousness of the people in the district of the fact that our pulp wood is not an inexhaustible supply and that we must plan for the future and consider the value of pulp wood more as a crop than we have in the past. It is well-known that most of easily accessible pulp wood has already been used and that there should be some steps taken to reforest the area with hemlock, which is one of the most desirable woods for pulp making, and which grows rapidly in certain belts on the Pacific slope, before the remainder of our timber has been completely cut off.

A talk was given by R. E. Chase of Tacoma on the Saunders Valve. This was illustrated by a large chart and the history and uses of this valve were presented by Mr. Chase in a very practical and entertaining manner.

George H. McGregor, Chairman of the Pacific Section, presided at the meeting and N. W. Coster, who is Vice-Chairman of the Section told the meeting something about the development in the South as seen by the members of the Association who visited the recent national convention at Savannah.

Those Who Attended

Ray Austin, Washington Pulp & Paper Co., Port Angeles; Jerry Alcorn, Pulp Division, Weyerhaeuser Timber Company, Everett.

L. D. Blodgett, U. S. Forest Service, Port Angeles; Clarence Bunge, National Paper Products Company, Port Townsend; J. R. Bruckart, U. S. Forest Service, Olympia; T. H. Beaune, Fibreboard Products, Inc., Port Angeles; C. V. Bason, Fibreboard Products, Inc., Port Angeles; J. H. Beaver, Central Engineering Department, Rayonier, Inc., Port Angeles Division, Port Angeles; Paul W. Blatter, Rayonier, Inc., Port Angeles Division, Port Angeles; D. Earl Baker, National Paper Products Company, Port Townsend; Jim Brinkley, James Brinkley Company, Seattle; Eugene Browning, Rayonier, Inc., Shelton Division, Shelton; B. A. Bannan, Western Gear Works, Seattle.

Evert A. Carlson, Rayonier, Inc., Port Angeles Division, Port Angeles; J. V. B. Cox, Hercules Power Co., Portland, Oregon; W. C. Crait, Rayonier, Inc., Port Angeles Division, Port Angeles; George A. Canfield, Rayonier, Inc., Port Angeles Division, Port Angeles; N. W. Coster, Soundview Pulp Company, Everett; R. S. Carey, National Aniline & Chemical Company, Portland, Oregon; E. J. Cavanaugh, Febreboard Products, Inc., Port Angeles; Walter J. Clough, Pulp Division, Weyerhaeuser Timber Company, Everett; Henry V. Charnell, Jr., Rayonier, Inc., Port Angeles Division, Port Angeles; John M. Carlson, Soundview Pulp Company, Everett; R. E. Chase, R. E. Chase & Co., Tacoma.

E. F. Drake, Crown-Zellerbach Corp., Port Townsend Division, Port Townsend; R. E. Drane, St. Helens Pulp and Paper Company, St. Helens, Oregon; H. A. Des Marais, General Dyestuff Corporation, Portland, Oregon; George E. Durkee, Shaffer Pulp Company, Inc., Tacoma.

Girard C. Eck, Rayonier, Inc., Shelton Division; Shelton.

V. A. Floberg, Rayonier, Inc., Port Angeles Division, Central Engineering Office, Port Angeles; H. F. Fretz, Rayonier, Inc., Port Angeles Division, Portland, Oregon.

H. M. Gustafson, General Electric Company, Seattle; Howard C. Graham, Washington Pulp and Paper Company, Port Angeles; William R. Gibson, Shibley Company, Seattle.

Fred G. Hurst, Rayonier, Inc., Port Angeles Division, Central Engineering Office, Port Angeles; B. E. Hoffman, U. S. Forest Service, Portland, Oregon; Luke R. Hadnot, Grinnell Company, Charlotte, N. C.; E. J. Hanzlik, U. S. Forest Service, Olympia; R. W. Halbert, Rayonier, Inc., Port Angeles Division, Port Angeles; N. O. Hartnagel, Fibreboard Products, Inc., Port Angeles; Wm. S. Hodgson, Fibreboard Products, Inc., Port Angeles; R. S. Hanchett, Fibreboard Products, Inc., Port Angeles.

H. M. Jones, Ohio Knife Company, Seattle.

Geo. H. Krueger, Rayonier, Inc., Port Angeles

Division, Port Angeles; J. K. Kieburtz, Rayonier, Inc., Port Angeles Division, Port Angeles; Glen D. King, Washington Pulp & Paper Corporation, Port Angeles; M. E. Kinsey, Rayonier, Inc., Shelton Division, Shelton; John M. Kjome, Scientific Supplies Company, Seattle.

A. H. Lloyd, Crown Zellerbach Corp., Port Townsend Division, Port Townsend; Ralph P. Lungreen, Soundview Pulp Company, Everett; Don Lawson, Rayonier, Inc., Port Angeles Division, Port Angeles; Ralph Lawrence, Fibreboard Products, Inc., Port Angeles; N. A. Lewthwaite, National Paper Products, Port Townsend.

C. T. Mulledy, Rayonier, Inc., Port Angeles Division, Port Angeles; W. A. McKenzie, Rayonier, Inc., Shelton Division, Shelton; G. H. McGregor, Pulp Division, Weyerhaeuser Timber Co., Longview; J. W. Martin, Schorn Paint Manufacturing Company, Seattle; A. M. Mears, Pacific Coast Supply Company, Portland; Wm. E. Marshall, Heller & Merz Corporation, Portland; E. Clair McCormick, Washington Pulp and Paper Corporation, Port Angeles; J. H. McCarthy, Soundview Pulp Company, Everett.

Fred Nicholson, Stetson-Ross Machine Company, Seattle.

Herbert Oliver, General Electric Supply Corporation, Seattle.

Fred Radke, Rayonier, Inc., Port Angeles Division, Port Angeles; H. H. Richmond, Electric Steel Foundry, Portland; Ed Riley, Palmer Supply Company, Seattle; E. D. Rich, Rayonier, Inc., Port Angeles Division, Port Angeles.

Otto H. Sangder, Rayonier, Inc., Grays Harbor Division, Hoquiam; P. E. Sullivan, Ingersoll Rand Company, Seattle; W. O. Stevens, Rayonier, Inc., Port Angeles Division, Central Engineering Office, Port Angeles; P. S. Simcoe, National Paper Products, Port Townsend; E. C. Sherman, National Paper Products, Port Townsend; George F. Sherrill, L. H. Butcher Company, Seattle; Brian Shora, Pennsylvania Salt Manufacturing Company of Washington, Tacoma; H. A. Sprague, Rayonier, Inc., Port Angeles Division, Port Angeles; Winston Scott, Rayonier, Inc., Shelton Division, Shelton; Glenn Simkins, Rayonier, Inc., Port Angeles Division, Port Angeles; Harlan Scott, Pacific Pulp & Paper Industry, Seattle; H. N. Simpson, Crown-Zellerbach Corp., Port Townsend Division, Port Townsend.

Cecil L. Triplett, Hawley Pulp and Paper Company, Oregon City, Oregon; Earl G. Thompson, Great Western Electro-Chemical Company, Seattle; Robert S. Tabke, Rayonier, Inc., Shelton Division, Shelton.

F. K. Van Etten, Port Angeles; R. O. Vognild, Hooker Electrochemical Company, Tacoma; W. A. Veech, Rayonier, Inc., Port Angeles Division, Central Engineering Office, Port Angeles; J. V. Venables, Washington Pulp and Paper Corporation, Port Angeles.

Henry E. Weller, Rayonier, Inc., Port Angeles Division, Port Angeles; Stewart H. White, City of Port Angeles, Port Angeles; F. W. Whitney, Central Engineering Office, Rayonier Inc., Port Angeles Division, Port Angeles; Borden Wilber, National Paper Products, Port Townsend; L. H. Wear, Taylor Instrument Company, Portland, Oregon; W. T. Webster, St. Regis Kraft Company, Tacoma; James W. Wenger, Washington Pulp and Paper Corporation, Port Angeles; Samuel Weiss, Vaughan Motor Company, Portland; N. T. Widman, Rayonier, Inc., Port Angeles Division, Port Angeles.

Leonard Ziel, Port Townsend Division, Crown Zellerbach Division, Port Townsend.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has elected the following to membership:

Gerard A. Albert, Engineer, Phenolite Division, National Vulcanized Fibre Company, Kennett Square, Pa., is a 1927 graduate of Pennsylvania State College and was formerly an instructor at the Stevens Institute of Technology and the College of the City of New York.

Adam G. Aitchison, Research Chemist, Warner Chemical Company, New York, N. Y., is a 1920 graduate of the University of Michigan and was formerly with the Clinical Laboratory Company, Cleveland, Ohio.

James R. Athur, Chemist, Aetna Paper Company, Dayton, Ohio, is a 1932 graduate of Defiance College.

Clyde A. Benson, Engineer, American Delthirna Corporation, New York, N. Y., is a 1922 graduate of the Massachusetts Institute of Technology and was formerly with the Brown Company, Berlin, N. H., Oxford Paper Company, Rumford, Me., S. D. Warren Company, Cumberland Mills, Me., and the Oxford-Miami Paper Company, W. Carrollton, Ohio.

A. McLean Carr-Harris, Chemist, Price Brothers & Co., Ltd., Jonquiere, P. Q., is a 1935 graduate of the University of Western Ontario.

James P. Casey, Student, New York State College of Forestry, Syracuse, N. Y.

John Chomicz, Chemical Engineer, Central Paper Co., Muskegon, Mich., is a 1937 graduate of the University of Michigan.

Harold E. Corbin, Chemist, St. Regis Paper Company, Harrisville, N. Y., is a 1934 graduate of St. Lawrence University.

George A. Day, Chief Chemist, Brown Corporation, La Tuque, P. Q., is a 1922 graduate of the University of Toronto and was formerly manager of Industrial Laboratories Ltd., Toronto.

Edward Engel is a 1927 graduate of the University of Maine and was formerly with the Brown Co., Berlin, N. H.; International Paper Company, Three Rivers, P. Q.; and the Holyoke Card and Paper Company, Springfield, Mass.

Clarence Enghouse, Technical Supervisor, Crown Willamette Paper Company, West Linn, Ore., is a 1924 graduate of the Oregon State College.

James F. Fielding, Superintendent, Chillicothe, Ohio, attended the University of Helsingfors, Finland, and was formerly with the American Writing Paper Company, Holyoke, Mass., and the Lee Paper Company, Vicksburg, Mich.

James J. Forsuth, Jr., Chemist and Sales Service, Fraser Cosmetics, Ltd., Madawaska, Me., is a grad-

uate of Northwestern University, 1934, and attended the Institute of Paper Chemistry also.

Bjourn Fougner, Mill Manager, Borregaard Company, Sarpsborg, Norway, is a graduate of Darmstadt, Germany.

Joseph S. Fox, Assistant Chemist, Pulp and Paper Laboratory of Savannah, is a 1932 graduate of Georgia School of Technology.

Valentine Frederich, Jr., General Superintendent, Beckett Paper Company, Hamilton, Ohio, is a 1922 graduate of the Massachusetts Institute of Technology.

Robert R. Fuller, Chief Chemist, Gulf States Paper Corporation, Tuscaloosa, Ala., is a 1932 graduate of the University of Alabama.

E. Archie Harper, Chief Chemist, Kieckhefer Container Company, Plymouth, N. C., is a 1923 graduate of the University of Alabama, and was formerly with the Gulf States Paper Corp., Tuscaloosa, Ala.

Ward D. Harrison, Chemist, Riegel Paper Corp., Milford, N. J., is a 1932 graduate of the Iowa State College and the Institute of Paper Chemistry, and was formerly with the Crown Willamette Paper Company, Camas, Wash., and the Northwest Paper Co., Cloquet, Minn.

Charles W. Hayden, Sales Manager, Hayden Wire Works, W. Springfield, Mass., is a graduate of Syracuse University.

W. F. Hoffman, Technical Director, Northwest Paper Company, Cloquet, Minn., is a 1924 graduate (Ph. D.) of the University of Minnesota.

Harold E. Ingalls, Engineer, Southern Kraft Corporation, York Haven, Pa., is a 1928 graduate of the University of Maine and was formerly with the International Paper Company, Palmer, N. Y.

Joseph D. Lowery, Manager, Heavy and Paper Chemical Sales Department, American Cyanamid & Chemical Corp., New York, N. Y., is a graduate of the Newark Technical Institute.

Rudolph A. Maronne, General Manager, Mysore Paper Mills Ltd., Bhadravati, Mysore State, South India, is a 1913 graduate of the Technical University of Breslau and Kothen, Germany, and was formerly with the Feldmuhle Paper Pulp Mills, Odermunde, Germany; Waldhoff-Mannheim Co., Mannheim, Germany; Siegel-Haase Paper Mills, Grunhainicher, Germany; Consulting Engineer in Russia, China, France and Spain; and formerly with Upper India Couper Paper Mills, Lucknow, India.

Frank S. McCall, Assistant Chemist, Pulp and Paper Laboratory of Savannah, is a 1932 graduate of the Virginia Military Institute.

Robinson E. Matthews, Technical Supervisor, Champagne Paper Corporation, New York, is a 1929 graduate of the University of North Carolina and was formerly with the Buckeye Cotton Oil Company, Memphis, Tenn.

James J. Murray, President, Kalamazoo Label Company, Kalamazoo, Mich., was formerly with the Kalamazoo Stationery Company.

John F. Natwick, Instructor, Wisconsin State Board of Vocational Education, Wisconsin Rapids, Wis., is a 1924 graduate of the University of Wisconsin and was formerly with the Consolidated Water Power and Paper Co., Wisconsin Rapids, Wis.

Franklin R. Newton, Chemical Director, A. M. Collins Manufacturing Company, Philadelphia Pa., is a 1924 graduate of Drexel Institute and was formerly with the Viscose Co., Marcus Hook, Pa.

Richard A. Nugent, Technical Superintendent, Nekoosa Edwards Paper Company, Nekoosa, Wis., is a 1923 graduate of the University of Michigan and was formerly with the Stevens Point Pulp & Paper Co., Stevens Point, Wis., and the Celotex Company, Chicago, Ill.

Truman A. Pascoe, Technical Director, Nekoosa Edwards Paper Company, Port Edwards, Wis., is a 1925 graduate of the University of Minnesota (Ph. D.) and was formerly with the Northwest Paper Company, Cloquet, Minn.

John D. Robinson, Sales Engineer, Savannah, Ga., attended the University of Georgia.

Harold K. Sheldon, Chemist, Hoberg Paper and Fibre Company, Green Bay, Wis., is a 1935 graduate of Lawrene College.

Heikki Sihtola, Assistant Technical Manager, A. Ahlstrom, O. Y. Warkaus, Finland, is a 1934 graduate of the Technica University of Helingfors, Finland.

Francis L. Simons, George La Monte Company, Nutley, N. J., is a 1919 graduate of Brown University and Yale University (Ph. D.) and was formerly with the Rogers Fibre Company, Kennebac, Me., and Skinner & Sherman, Inc., Boston, Mass.

L. D. Smiley, General Superintendent of Construction, Merritt, Chapman & Scott, New York, N. Y., and was formerly with Management Engineering and Development Company, Dayton, Ohio.

Eugene H. Smith, Chief Chemist, Hummel-Ross Fibre Company, Hopewell, Va., is a 1929 graduate of the University of Virginia.

Karl Sonder, Consultant on Paper Sizing, Hamburg, Germany.

Bruce Suttle, General Superintendent, Crossett Paper Mills, Crossett, Ark., was formerly with the Bogalusa Paper Company, Bogalusa, La.; Bastrop Pulp & Paper Co., Hodge, La.; and the Pulp and Paper Laboratory of Savannah.

Joseph J. Thomas, Research Chemist, Rohm & Haas Company, Philadelphia, Pa., is a 1935 graduate (Ph. D.) Pennsylvania State College.

Paul H. West, Control Engineer, Thilmany Pulp and Paper Company, Kaukauna, Wis., is a 1935 graduate of the University of Wisconsin and was formerly with the Wisconsin State Highway Commission, Madison, Wis.

Frank Zeitlin, Research Director, Paper Mill, West Virginia Pulp and Paper Company., Mechanicsville, N. Y., is a 1929 graduate of Columbia University.

Henry C. Zeni, Assistant to Dept. Sales Manager, American Cyanamid and Chemical Company, New York, was formerly with A. Klipstein & Co., New York.

Paper Mill in Tasmania to Start

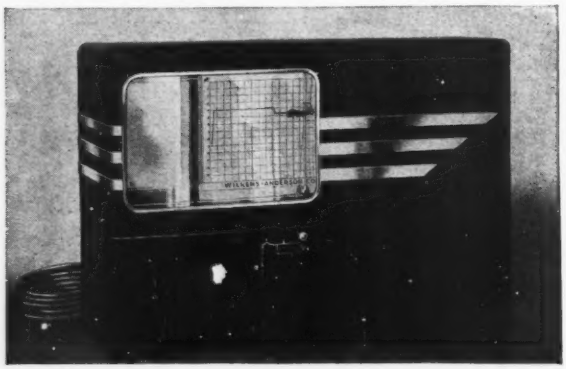
[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 24, 1937—At the annual meeting of the Associated Paper and Pulp Mills Limited, an announcement was made that during the first half of 1938, the mills would commence production on a commercial scale. Plant capable of producing 15,000 tons per annum of printing and writing papers is being installed at Burnie, Tasmania. In addition to manufacturing paper, the company will investigate the possibilities of exporting its surplus pulp.

Remote pH Recorder with Glass Electrode

The first successful Automatic pH Recorder using a glass electrode was recently installed by the Wilkens-Anderson Company of Chicago at the plant of the Mosinee Paper Mills Company, Mosinee, Wis. The recorder is known as the Cameron pH recorder and patent application has been filed by Dr. D. H. Cameron of the B. D. Eisendrath Memorial Laboratory, Racine, Wis.

Because the glass electrode may be used in heavily colored solutions, and in chlorine laden liquors or in the presence of oxidizing or reducing materials, application of automatic pH control or minute-by-minute visual record of processing is now possible. Key men will appreciate the Cameron recorder because only the sampling mechanism and electrodes are located in the plant. The pH record is written in the privacy of the superintendent's office so that essential details of the process may be guarded.



CAMERON PH RECORDER

With the glass electrode mounted at the point where pH control is required, a sampler (a valve operated by an electric clock) automatically withdraws a sample, at fixed intervals, the frequency of which may be changed to meet specific needs. The potential which is developed by the electrodes is transmitted to the automatic recorder which is illustrated herewith and which is mounted in the laboratory of Chief Chemist G. F. Enderline through about 50 feet of cable. In the near future, there will be three motorized samplers with electrodes. The cable may be 150 feet to 500 feet as there appears to be no limit to the distance.

The recorder, proper, is a marvel of simplicity. Cams, gears and moving parts have been reduced to a minimum. Instead of a multiplicity of examples of the machinist's art, a simple effect has been achieved in design and mechanism. Basic potentiometric principles of electrical measurement are used, with the circuit standardized at suitable intervals.

The chart sheet is not a long ribbon or a roll but is a common cross-section sheet (co-ordinate 8½ x 11 inches, which files flat in a note book or file drawer for permanent record of each day's output. The 10-inch length may cover a 5, 10, or 20-hour period as desired. It is a simple matter to change the length of the recording period by substituting a threaded carrier screw with a different pitch. The chart is mounted on the holder plate with clips and starting time and date are noted. During the operation, notes may be written opposite any unusual change in the record. At the conclusion of the day or other period, the chart is removed and pertinent notations may be made. Then the chart may be easily compared with the preceding charts by laying the sheets so that the hour lines match or so that the pH lines match and variations can be noticed at a glance, a real convenience for quick visual check of a process.

The recording pen rises to the exact reading of pH in the sample, then withdraws about 1/16 of an inch and raises again to the exact point, slowly repeating the oscillations while the electrode bulb is in the sample. By approaching the point of record from the same direction always, all back lash or other mechanical errors are eliminated. There is no neutral zone.

At the control point, the original installation utilized such a make-shift assembly as an ordinary laboratory ring stand, with the Cameron glass electrode mounted in the open, naturally picking up dust or spray at such an exposed spot in a mill. During a steady, fourteen week run, no representative of Wilkens-Anderson Company visited the mill but the recorder has functioned right along under the supervision of Mr. Enderline and his associates. In today's commercial models, the equipment is, of course, housed in attractive cases, but it is to be noted how well Dr. Cameron's design has stood up under the adverse conditions described. The savings in chemicals, the amount of spoilage which has been avoided and the uniformity of the product have been commended by the mill officials.

Processing valves may also be operated and handled by a modification of the Cameron recorder. In effect this permits automatic titration, holding the liquids of a process at any predetermined pH value.

The Wilkens-Anderson Company has specialized in glass electrode pH instruments and has made over 600 installations of types earlier than the Cameron in the United States and foreign countries. The company will have the Cameron pH recorder in operation at their Exhibit Booth 212, at the Chemical Industries Exposition, Grand Central Palace, New York, December 6 to 11th. In addition, literature is available and may be obtained by addressing Wilkens-Anderson Company at 111 North Canal street, Chicago.

Powell River Starts New Pulp Plant

Installation of a new 120-inch Kamyr Wet Machine has now been completed at the Powell River, B. C., plant of the Powell River Company. Production of the first sulphite pulp on the new machine commenced early in November and marked the advent of the company into the export pulp field.

Commencing operations in 1911, the Powell River Company has developed until its plant has become the leading producer of newsprint on the Pacific Coast. They concentrated entirely on the newsprint field until last spring, when the erection of a new plant to be used for the production of export pulp was commenced. Their storage capacity of the present structure is 1,000 tons of baled sulphite pulp. The first unit of the sulphite plant has now been built and the capacity of this plant will ultimately be doubled.

The new Kamyr Machine has a total capacity of 100 tons of pulp and is at present turning out 50 per cent of that tonnage. An air drier and additional digester will shortly be installed in the plant, after which the unit will be operated to full capacity.

Financial News of Pulp and Paper Industry

Change Contemplated In Brown Co's. Reorganization Plan — Abitibi Bondholders May Compromise Differences As To Control of Company— West Virginia Paper Bonds—International Reports Profit—Other News.

New York Stock Exchange

High, Low and Last for the Week Ending November 24, 1937

	High	Low	Last
A. P. W.	4	4	4
Armstrong Cork Co.	41	33¼	33¼
Celotex Corp.	26⅝	23	23
Celotex Corp., pf.	63	57	57
Certain-Teed Products Corp.	9	6⅝	7½
Certain-Teed Products Corp., pf.	30⅛	24¾	26
Champion Paper & Fibre Co.	32	25⅞	26
Congoleum-Nairn Co.	24¼	22	22¼
Container Corp. of Amer.	15¾	12⅝	13
Continental-Diamond Fibre Co.	9½	8	8
Crown-Zellerbach Co.	12⅛	9⅜	10
Crown-Zellerbach Co., pf.	72¼	64½	65
Flintkote Co.	18½	15	16⅝
Robert Gair	5⅜	4¾	5
Robert Gair, pf.	22	20⅜	20⅞
International Paper & Power	11⅝	9½	9⅞
International Paper & Power, pf.	47¼	38¾	39
Johns-Manville Corp.	81¾	65½	68
Johns-Manville Corp., pf.	122	122	122
Kimberly-Clark Corp.	20¾	19½	20
MacAndrews & Forbes	31	30	31
MacAndrews & Forbes, pf.	123⅛	12..⅞	123⅛
Masonite Corp.	31	26½	26⅞
Mead Corp.	15	11⅞	12¼
Paraffine Companies, Inc.	39⅞	32½	35
Ruberoid Co.	21	19	19
Scott Paper Co.	39	35¼	35¼
Sutherland Paper Co.	22	18	18
Union Bag & Paper Corp.	10¾	9⅜	9⅝
United Paperboard Co.	6	4⅞	5
U. S. Gypsum Co.	65	53	54⅛
U. S. Gypsum Co., pf.	156	156	156

New York Curb Exchange

High, Low and Last for the Week Ending November 24, 1937

	High	Low	Last
American Box Board Co.	10⅛	8⅛	8⅛
Brown Co., pf.	38½	28	28
Great Northern Paper	33	31½	32
St. Regis Paper Co.	4	3⅜	3⅝
St. Regis Paper Co., pf.	62	60	60
Taggart Corp.	5½	4⅝	4⅞

Changes in Brown Plan Are Likely

Important changes in the Brown Company's plan for reorganization will have to be made in order to arrive at a plan acceptable to the bondholders, according to a letter being distributed by the bondholders protective committee, of which Charles Francis Adams is chairman and Serge Semenenko is vice chairman.

The committee states that in order to avoid, if possible, the confusion incident to several plans being presented at the same time to security holders, it is continuing its efforts to bring about a general agreement with the representatives of the other interested groups, upon an acceptable plan which will afford adequate protection to the interests of the bondholders and will be fair to the other security holders. Meetings have been arranged with this end in view. It is to be hoped that changes will be forthcoming which will result in a general agreement upon such a plan.

"Bondholders should take no action pending the outcome of the committee's negotiations with the other groups and further clarification of the situation," the letter adds.

Following its study of the engineering report of the Brown Company properties, the committee declares that it "desires to make clear with emphasis that it still regards the company plan as unsound and definitely not in the interests of the bondholders.

"Bondholders should bear in mind the pronounced recession in business which has taken place recently," the letter observes, "and should appreciate that estimates of future earnings are after all, nothing more than estimates and should not be counted on for immediate working capital and other immediate cash requirements."

The committee holds the risk of loss in the event of default under the proposed new issue of Brown Corporation bonds and of a split-up in ownership of the Canadian and United States properties is serious and far-reaching. The committee is convinced that the issuance of the new Brown Corporation bonds is in itself sufficiently serious to warrant disapproval of the company plan entirely apart from any consideration of other vital factors."

The letter also calls attention to the report recently filed with the court by Barrow, Wade, Guthrie & Company, the new accountants, in connection with the review of the Brown Company balance sheet, on an unconsolidated basis, as at Nov. 28, 1936.

"The accountants recommend to the trustees important corrections in the Brown Company balance sheet as at Nov. 28, 1936, the last audited balance sheet, in order that it may conform to accepted accounting practice," the letter adds. "The effect of these preliminary recommendations, if adopted by the trustees, will be to increase the deficit of the Brown Company as of Nov. 28, 1936, by about $6,000,000."

Abitibi Compromise in Sight

Hope of averting endless litigation over the reorganization of the Abitibi Power and Paper Company was seen last week as the Ripley bondholders' and opposing factions conferred in Toronto. Main bone of contention was said now to be the control and direction of the $100,000,000 paper enterprise after its re-organization is completed. Various groups, which so far have fought bitterly the Ripley plan, are asked for a set of directors, composed of the biggest Canadian business men available, as well as representatives of United States interests. They are demanding also that the new directors be men who are not allied with any rival paper companies. The re-organization plan of the official bondholders' committee, headed by J. B. Ripley, of New York, was endorsed at a recent meeting of the bondholders called under court order, but only over violent opposition. Application for approval of this plan is now before the Court, but hearings were adjourned by Mr. Justice McTague to give bondholders an opportunity of coming to a settlement. Court action is also being sought for a rival scheme sponsored by Sir Henry Drayton and a second group of bondholders as well as by counsel for the holders of common and preference shares. When the court meets again in a few days time it is considered possible that a compromise plan may be ready for submission. Failing that, groups opposing the Ripley plan have indicated

their intention of carrying the case to the Privy Council. Among amendments to the original Ripley plan, which are believed possible of agreement, are terms giving a more liberal provision for both common and preferred shareholders.

West Virginia Pulp and Paper Bonds

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 24, 1937.—West Virginia Pulp and Paper Company, of New York, N. Y., has filed a registration statement with the Securities & Exchange Commission under the Securities Act of 1933 covering $10,000,000 of First Mortgage Bonds, Series due 1952 (due December 1, 1952). The interest rate is to be furnished by amendment to the registration statement.

According to the registration statement, $8,500,000 of the net proceeds from the sale of the Bonds are to be used to retire unsecured bank loans in the same amount incurred principally in connection with the construction of the company's mill at Charleston, South Carolina. The remainder of the proceeds are to be used to provide for increases in cash, receivables and inventory and for general corporate purposes, the company states.

Brown, Harriman & Co. Inc., of New York, N. Y., is the principal underwriter.

The price at which the bonds are to be offered, the underwriting discounts of commissions and the redemption provisions are to be furnished by amendment to the registration statement.

I. P. Co. Report $8,062,077 Profit

Richard J. Cullen, president, submitted herewith a statement of consolidated profit and loss of International Paper and Power Company and subsidiary companies (excluding International Hydro-Electric System and its subsidiaries) for the third quarter and first nine months of 1937 together with comparative figures for the corresponding periods of 1936.

"Net profit for the first nine months this year amounted to $8,062,077, before deduction for possible payment of tax on undistributed profits, compared with profit of $1,548,006 (after provision of $703,685 for tax on undistributed profits) during the first nine months last year.

"The Board of Directors has declared a regular dividend of $1.25 a share on the outstanding cumulative convertible 5% preferred stock for the fourth quarter of 1937 and an additional dividend of $1.25 a share on the same stock to apply on dividend arrearages. Both dividends will be payable December 10, 1937, to holders of record at close of business November 26, 1937. Dividends on this preferred stock are cumulative from January 1, 1937."

Crystal Tissue Settles Suit for $500

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, November 22, 1937. — Bertha Fugate, executrix for the estate of I. S. Sparks, was permitted Tuesday in probate court to accept $500 from the Crystal Tissue Company as full settlement of a $10,000 suit pending against the company in common pleas court.

Sparks sued on contention his farm was damaged by the company pollution of Dick creek. The suit had been pending several years.

Italy Produces More Chemical Pulp

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 17, 1937—The production of chemical pulp in Italy during the first 7 months of 1937 is stated to have been 19,680 metric tons, against 12,956 metric tons in the same period of 1936, according to a report from the office of the American Commercial Attache in Rome.

During the first 8 months of 1937, Italy imported 156,978 metric tons of chemical pulp, against imports for the corresponding period of 1936 of 115,600 tons.

INTERNATIONAL PAPER AND POWER COMPANY AND SUBSIDIARY COMPANIES

(Excluding International Hydro-Electric System and Subsidiaries). Statement of Consolidated Profit and Loss

	Quarter Ended Sept. 30, 1937	Quarter Ended Sept. 30, 1936	Nine Months Ended Sept. 30, 1937	Nine Months Ended Sept. 30, 1936
Sales and Other Income:				
Gross sales, less returns, allowances and discounts	$31,627,640.10	$28,305,869.39	$94,662,256.46	$81,249,830.30
Other income—net	347,731.93	324,062.20	1,012,337.21	884,011.41
	$31,975,372.03	$28,629,931.59	$95,674,593.67	$82,133,841.71
Cost and Expenses:				
Cost of Sales:				
Pulpwood, labor, materials, etc.	$17,605,293.30	$16,352,775.37	$54,326,224.60	$48,418,983.47
Maintenance and repairs	2,086,284.53	1,609,721.01	5,729,888.61	4,948,872.29
Taxes (other than income taxes)	683,709.92	652,535.47	1,976,159.25	1,685,184.77
Outward freight and delivery expenses	3,642,702.41	3,639,094.32	10,960,514.06	10,890,508.04
Selling, general and administrative expenses	1,478,764.52	1,450,978.43	4,382,830.46	4,417,912.07
Provision for doubtful accounts	153,425.03	156,745.57	458,517.93	469,069.33
	25,650,179.71	23,861,850.17	77,834,134.91	70,830,529.97
	$6,325,192.32	$4,768,081.42	$17,840,458.76	$11,303,311.74
Deductions:				
Interest on funded debt	$1,010,951.33	$1,005,390.36	$3,048,453.55	$2,843,545.53
Interest on other debt	12,484.49	75,492.45	17,294.99	496,799.00
Amortization of debt discount and expense	107,804.59	119,447.29	314,137.39	292,627.39
Depreciation	1,079,615.80	1,193,210.69	3,174,378.99	3,652,030.99
Depletion	227,458.51	209,538.65	811,886.72	564,437.45
Provision for income taxes	851,934.56	322,425.86	2,352,846.26	676,205.52
Provision for Federal undistributed profits tax	.....	385,459.00	.....	703,685.00
Dividends accrued but not being currently paid on preferred stocks of subsidiaries	5,559.06(a)	171,653.31	59,383.67(a)	525,974.42
	3,295,808.34	3,482,617.61	9,778,381.57	9,755,305.30
Net Profit	$3,029,383.98	$1,285,463.81	$8,062,077.19	$1,548,006.44

(a) The 1937 figures contain no provision for dividends on the preference shares of International Power and Paper Company of Newfoundland, Limited. Under a recent agreement, such dividends are non-cumulative until 1939.

In the above consolidated financial statements foreign accounts are stated on the basis of $4.85 for the pound Sterling and at parity of exchange for Canadian and Newfoundland currencies without adjustment of differences. It is the practice of the companies to reflect in current operations any differences between these rates and the current quotations at the time funds are actually purchased or transferred.

Unpaid dividends on cumulative convertible 5% preferred stock of International Paper and Power Company for the period from January 1, 1937 to September 30, 1937 amount to $3,467,985.00 ($3.75 per share).

The above statements are subject to final adjustment at December 31st (end of fiscal year).

Markets Hold Up Well As Demand Slackens

Chicago Trade Quiet As Hesitant Buyers Wait for Congress to Clear Up Present Confused Business Situation — Color Study by Art Director of Container Corp. — Paper Board Production — Other Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., November 22, 1937—The paper industry locally is drifting in a featureless way. Extreme quiet prevails as far as demand is concerned though markets are holding up in a satisfactory way. The lull has extended into virtually all grades who find buyers extremely hesitant to make commitments until the general business situation picture clears up. The actions of the present Congress, with specific reference to wage-and-hour legislation, material amendment to the capital gains and losses section of the revenue laws and the undivided profits tax laws are all listed by local paper executives as factors having a direct bearing on all lines.

Groundwoods showed a colorless report, according to local executives, with demand quiet and spotty. Newsprint markets were unchanged. The fine paper industry locally had little to report with business moving within a very narrow range. No changes were reported in reference to sulphite bonds and other lines. Books and covers found comparatively few buyers. Paperboard markets were slightly depressed by the published reports on production, though prospects for the year are said to be gratifying. Waste paper markets were weak with buyers showing little interest.

Board Production Down

From paper board headquarters comes the statement that the industry produced 348,091 tons of paperboard in September, a smaller production than in any other month this year though representing an increase of nearly 20,000 tons when compared to September, 1936, when the industry turned out 328,519 tons of paperboard. September production was 71.5 per cent of capacity. For the first nine months of this year production was 3,442,266 tons as compared to 2,648,625 tons for 1936. The current output is 82.6 per cent rated capacity as compared to 71.1 per cent in the corresponding period in 1936. For all of 1936 the paper board production in the United States amounted to 3,658,871 tons. New orders received during September amounted to 324,216 tons. The orders received thus brought unfilled orders at the end of the month to 108,467 tons from the 129,745 tons reported at the end of August. On September 30, 1936, unfilled orders totaled 135,732 tons according to statements from the industry.

Color Study by Art Director

Egbert G. Jacobson, art director of the Container Corporation of America and president of the Association for Color Research, is the author of an extremely interesting article on "The Science of Color" which features the current issue of "More Business" published by the letterpress printing and photoengraving industry. The article discusses the "gray scale", "non-chromatic colors", the full color circle, the "bright clear series", the chromatic colors and the "dark clear series". Also exceedingly well illustrated and diagrammed are the monochromatic triangles, the isotints, isotones, shadow series and a particularly revealing discussion of the isovolent circles. Sections of the color solid, the various symbols and the harmonies are included in the technical discussion which is certain to be of interest to the paper industry as well as to the vast army of executives who are working with color but who know little about it. In offering an illustrated study of the Ostwald theory of color harmony the American Photo-Engravers Association has undertaken, with admirable success, one of the most difficult tasks of color re-production that it is possible to achieve within the limits of four-color process. The desire behind the study prepared by Mr. Jacobson is to help solve some of the color problems arising in the preparation of printed advertising and particularly those arising from the selection of a second, third or fourth color for an advertising piece. In preparing the material Mr. Jacobson was obliged to translate from the original German, several of the writings of Dr. Wilhelm Ostwald of Germany.

Three Associations Meet

Chicago was the site of a great deal of organization activity during the week with three separate groups meeting at the Drake Hotel and a representative attendance of the industry reported. The Groundwood division met on November 17 while the Sulphite Bond division of the Writing Paper Manufacturers met during the afternoon of the same day. The Executive Committee of the Book Paper Manufacturers Association held its sessions on November 17 while the general meeting of the book paper association was held on November 18.

Traffic League Nominee

C. F. Hichborn, manager of the traffic department of the Butler Paper Corporation, has been nominated as treasurer of the National Industrial Traffic League. The League met in Chicago on November 18, primarily to discuss whether or not the traffic men would continue to support the Pettengill bill, which seeks repeal of the long and short haul clause from the interstate commerce act.

I.C.C. Acts Favorably on Complaint

The Interstate Commerce Commission is reported locally to have approved reopening of dockets involving complaints made by the Columbian Paper Company against various rail carriers. The complaints against the carriers allege that import rates on woodpulp are preferential and discriminatory. The two dockets are 27405 and 27476.

Friction Clutch for Heavy Impact

A folder issued by T. B. Wood's Sons Company, of Chambersburg, Pa., describes the company's new "U. G." friction clutch, designed especially for use on oil, gas, Diesel engine drives, or on drives where heavy impact is encountered on either end.

Paper Men Hold Fall Meeting At Boston

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., November 22, 1937—The fall meeting of the Boston Paper Trade Association was held Wednesday evening at the Exchange Club with more than 100 members and guests present.

President F. Bendel Tracy called the meeting to order after the dinner. By the casting of one ballot, the following were elected to regular membership: John P. Ingalls, Ingalls Cronin Company, Boston, proposed by F. Bendel Tracy; George Olmsted, Jr., S. D. Warren Company, Boston, proposed by J. H. Brewer, and Charles Townsend, of Logan, Swift & Brigham Division, Worcester, proposed by W. N. Stetson, Jr.

Nominees to Be Voted at Annual Meeting

President Tracy appointed the nominating committee to bring in names of candidates for officers, to be voted on at the annual meeting, as follows: Chairman, Col. Charles S. Proctor, John W. Vivian, John E. A. Hussey, M. L. Madden and Jesse G. Swift.

After a few felicitous remarks by Col. Proctor, President Tracy called attention to the fact that Mr. Vivian's golden wedding anniversary occurred in early October. It was also brought out that Mr. Hussey's golden wedding anniversary came later in October. All joined in felicitations to observers of their anniversaries.

Col. Proctor remarked that he had been commuting between Lowell and Boston for 55 years, noting the fact that he had known John Vivian for 50 years.

Mr. Tracy said he had hoped that Ned Bement's father, who was in his 94th year, would be present, but he was unable to come.

He called on C. A. Wiswall, a charter member, to speak. Mr. Wiswall responded in a reminiscent vein, saying that he didn't think human nature had changed much in 50 years. He had left off making paper some years ago and later started to buy it.

The president said the association was indebted to R. M. Stone for the exhibit of menus, which was shown on a floor below. Mr. Stone, of Stone & Forsyth Company, had found them with some papers which Mr. Forsyth had left.

Mr. Tracy referred to H. A. Moses, who had hoped to be present, as another member of the old school. Mr. Moses, a trustee of Boston University, expected to introduce the speaker of the evening, Dr. Daniel L. Marsh, president of Boston University, but was unable to come. He sent, however, a supply of M..ckintosh apples, and one was placed at each plate.

Vice-President Introduces Speaker

The president said he thought it was the privilege of the first vice-president to introduce the speaker, who was accordingly presented by first vice-president W. J. Raybold, as the head of one of the large universities of Boston.

Dr. Marsh, in his opening words, mentioned a very pleasant acquaintanceship with secretary Brewer and intimated that it was pleasant to meet the audience and get to know new people. He referred to the fact that, owing to the sale of the M. I. T. buildings, Boston University was to have a new site on the Charles River in Cambridge. The new buildings would cost $1,150,000.

Dr. Marsh's Address

Dr. Marsh's subject was "The Romance of Words," one of his hobbies. In his address, he noted the derivation of many words and names, speaking of the English language in high commendation, referring briefly to its historical aspect and the part of the Anglo-Saxon race in making it. He gave an interesting explanation of the derivation of the word "book," and spoke of the romance of paper, which started 2100 years before Christ. He noted the importance of paper in making communications, closing by relating how he and his family had given a name to his home at Marshfield.

Officers of the association are: President, F. Bendel Tracy; first vice-president, W. J. Raybold; second vice-president, J. L. Hobson; treasurer, T. Charles Casey; secretary, J. H. Brewer.

List of Members and Guests Present

Those present included: W. H. Loud; C. H. Dodge; L. L. Claflin; Arthur M. Burr; R. O. Neill; Maurice A. Park; Fred B. Korbel; W. N. Stetson; Jr., F. B. Cummings; C. W. Townsend; I. L. Sawyer; L. C. Cummings; Constant Southworth; N. S. Clark; Jack Mather; Ralph Hume; F. G. Lockwood; E. H. Little; E. H. Sussenguth; William Dempsey; W. W. Norton; R. F. Piper; C. W. Fields; Carl J. Knutson; Charles W. Bond; F. H. Masselink; T. Rawson; W. J. McLellan; W. L. Carter; Hubert W. Lockhart; Charles W. Nelson; Joseph D. Snell; Hubert L. Carter; R. M. Stone; H. Hume, Jr.; Jos. J. Lewis; Paul B. Fraser; John P. Ingalls; George M. Graves; Ralph L. Day; Herbert A. Lindenberg; Gordon E. Emerson; Horace B. Sargent; Walter P. Simonds; Harry R. Woodward; J. W. Vivian; Ralph B. Case; N. Harrower; S. Guy Ashley; William Ross; H. C. Fowler; W. E. Porter; Jr., W. E. Rice; R. H. Welsh; E. D. Bement; Kilby Osborn; Charles S. Proctor; Harold Hinckley; Irving N. Esleeck; J. E. A. Hussey; R. W. Bartlett; F. D. Hatch; R. A. Wright; C. H. Harris; Charles A. Shaw; W. N. Munroe, Jr.; George Lewis; R. P. Van Kirk; Hartley; A. Hurlbert; Wesley W. Binford; Howard E. Chase; Arthur M. Middleton; H. W. Robbins; Ernest W. Beals; John R. Halkyard; Jesse G. Swift; J. L. Munro; Clarence A. Wiswall; A. C. Wiswall; C. W. Harvey; J. A. Frost; E. A. Hay; R. P. Steele; Ernest S. Reid; W. Gardner Very; Harry C. Thayer; R. H. Poeckert; E. J. Sullivan; Paul Beach; John Roach; N. J. Patterson; J. H. Halloran; Walker B. Holmes; John Kelley; Harold A. Allen; C. Frederic Wellington; Frank H. Winter; F. Bendel Tracy; W. J. Raybold; J. H. Brewer; Dr. Daniel L. Marsh and T. C. Casey.

Speaks at Sales Meeting

O. S. Barrie, vice-president of Nation Wide Papers, Inc., Chicago, Ill., was the speaker at a sales meeting Saturday morning at the office of Carter, Rice & Co., Corporation, exclusive distributors of Nation Wide products in this vicinity. Mr. Barrie, in his talk, referred to all the lines made by the company and conducted an open discussion. He showed advertising material prepared for use in merchandising Nation Wide lines.

Power Plant Equipment for Baie Comeau*

At Baie Comeau, Quebec, a 350-ton newsprint mill is under construction along the most advanced lines. The design for the mill power plant equipment is based upon experience gained in the company's mill at Thorold, Ontario. This older plant had originally depended on electric boilers supplied with energy by the Ontario Hydro Commission. Due to uncertainty of continued electric service two years ago, a new coal-fired boiler plant was installed.

The original installation consisted of two 150,000 lb. per hour units, generating steam at 450 lb. pressure. The boilers were of the three drum, vertical tube type, fired with pulverized coal, and were equipped with bare tube superheaters, tubular air preheaters, and bare tube water walls on three sides of the furnace, approximately as shown in the accompanying drawing. At that time, no spare coal-burning unit was provided, since the electric boilers could be used in case of emergency, or when one of the coal-fired boilers was off the line for cleaning.

Pulverized coal for these boilers was supplied by four conical ball mills (Hardinge type), as shown in the photograph, complete with feeders, exhausters, automatic fed controllers, burners and the latest safety devices. Each mill had a capacity of 9450 pounds of coal per hour with a moisture content of 10 per cent and a guaranted fineness of 70 per cent through 200 mesh screen. An automatic control system regulated the entire boiler operation including forced and induced draft fans.

Soon after the first operation of these two units, a third and duplicate was ordered for Thorold, to provide an independent steam supply with a total capacity of 450,000 pounds of steam per hour.

For the development at Baie Comeau, two coal-fired boilers of similar design are being installed. One of the boilers is to be fired in the conventional way, with pulverized coal, and the other is equipped to burn either coal or wood or both. The combined capacity of the two units will be about 150,000 pounds of steam per hour.

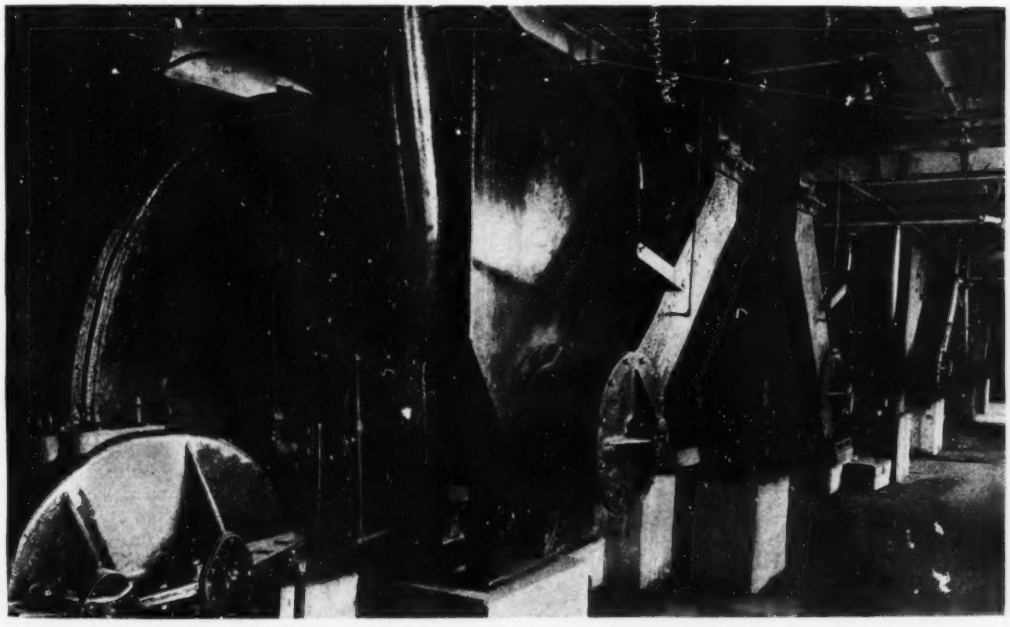
After pulpwood has been stripped of its bark, in the manufacture of newsprint, the wet bark must be disposed of and the best way of accomplishing that is to burn it. The heat content of about 8500 B.t.u. per pound (bone dry weight), while not as good as that of coal, is of considerable value as cheap, by-product fuel. When wood alone is fired at the rate of 10,000 pounds (dry weight) per hour, it is estimated that about 40,000 pounds of steam per hour will be developed at an efficiency of about 50 per cent. The unit is capable of burning 31,300 pounds of spruce bark per hour, containing 68 per cent moisture. When coal is fired simultaneously, the capacity of the unit will be limited only by the ability of the fans to remove the total gases.

* Heat Engineering published by Foster Wheeler Corp.

Japan Sets All Time Record

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 24, 1937—The Okuyama News Service, Tokyo, states that Japanese production of newsprint during August, was the largest monthly output thus far recorded during 1937 and that it set a new all-time record for monthly production. August sales of newsprint, however, showed a decline of 1,432 tons compared with the July total, apparently due to the advent of the slack season. Production of newsprint during the first eight months of 1937 totaled 273,495 short tons.



PULVERIZERS OF THE TYPE SHOWN HERE AT THOROLD, ONT., ARE BEING INSTALLED AT BAIE COMEAU.

Bathurst Power and Paper Co., Ltd., Makes Extensive Improvements

The Bathurst Power and Paper Company, Limited has recently completed an extensive program of improvements to its mills at Bathurst, New Brunswick. This program, which consisted of extensions to the sulphite mill and steam power plant, and modernization of the machines and other equipment, has stepped up production and reduced operating costs.

Sulphite Capacity Increased

The capacity of the sulphite mill was increased by the installation of a 17 foot in diameter and 50 foot and 4 inch digester and an elliptical blowpit of the latest design in the extensions to the Digester and Blowpit Buildings. In order to take care of the extra output of sulphite, the rifflers were extended, new flat screens installed and seventeen 48 inch diameter driers added to the sulphite drying machine. Other improvements include the erection of a 30 foot diameter acid accumulator in a new building adjoining the acid plant, the installation of the Chemipulp hot acid system, additional cooler capacity, and a new gas blower.

Extension to Steam Power Plant

The most important phase of the program to step up production was the extension to the steam power plant. In selecting equipment for this extension, the company made a pioneer step by installing a steam generating unit, operating at a gauge pressure of 650 pounds per square inch, the highest boiler pressure in the Canadian pulp and paper industry. This unit, the latest design of the Combustion Engineering Corporation, is capable of delivering steam, continuously, at the rate of 110,000 pounds per hour. In addition to the boiler, a Brown Boveri Turbo-Alternator and Condensing Plant were installed. The Turbo-Alternator is comprised of a two cylinder extraction steam turbine and a 7,500 KVA, 2,400 Volt, 3 Phase, 60 Cycle, 3,600 R.P.M. alternator. The steam turbine has two bleed points, one of which is hand controlled to feed steam at 175 pounds per square inch to the Mill for motive power and processing. The second bleed point is automatically controlled to feed steam at 40 pounds per square inch to the machine dryers. This unit is operated in parallel with the other Turbo Alternators and the Great Falls Hydro Electric Station.

Output in Excess of 100,000 Tons

The company's plant located at Bathurst, N. B. is an interesting one, in that it markets four major products—kraft liner and corrugating board, newsprint, boxboards of a wide variety and a high grade of unbleached sulphite pulp. The output is in excess of 100,000 tons per annum.

Riegel Corp. Expand Glassine Production

PHILADELPHIA, Pa., November 22, 1937—Rice, Barton and Fales, Worcester, Mass., have just installed a new 112-inch Fourdrinier paper machine for The Riegel Paper Corporation at its Milford, New Jersey mill, for increased production of glassine and greaseproof papers. This is the sixth machine to be installed at the Milford mill, and it is considered one of the most up-to-date glassine machines in operation today.

The Riegel Paper Corporation has been engaged in the manufacture of paper since 1862 and has specialized since 1910 in the production of glassine and greaseproof papers. The addition of No. 6 machine at the Milford mill marks another step forward in the progress of the corporation.

In 1910, John S. Riegel, then president of the company, installed the first glassine machine for the production of a grade which up to that time was largely imported from Germany. A thousand tons of glassine was sold the first year, which was conceded an outstanding achievement in 1910. During the next seventeen years, Riegel put into operation five large paper machines solely for the manufacture of glassine and greaseproof papers, and today is the largest manufacturer of these grades in the world. Riegel Mills are specialists in this type of paper and are able to supply it in weights ranging from a 16 to 100-lb. sheet, bleached and unbleached, transparent and opaque, colored and plain, tinted and printed, coated, waxed and lacquered, and by reason of its special properties this paper is made adaptable to innumerable uses. Among the more recent developments by Riegel is the application of lacquer-coating to glassine, which enhances the transparency and protective qualities; already in commercial use this application has created a wide demand for glassine.

A program of expansion and improvement of all its equipment is now under consideration by The Riegel Paper Corporation—to include additional storehouses and auxiliary paper-making equipment at the Milford, Warren, Hughesville and Riegelsville mills.

Safety Congress to Meet in Chicago

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, November 22, 1937.—The 1938 National Safety Congress will be held in Chicago October 10-14, the executive committee of the National Safety Council decided today.

The entire Stevens Hotel will be used for the Congress.

Next year is the Silver Jubilee year of the National Safety Council and the Council thus brings its biggest Congress to a city which saw the Council start with two men and a tiny office 25 years ago and grow to national importance.

The 1937 Congress, held in Kansas City last month, attracted more than 8,000 delegates from throughout the United States and several foreign countries. More than 40,000 square feet of floor space was required to accommodate the safety exhibits that are a feature of every Congress.

The 1938 Congress will have 200 sessions and more than 400 speakers. It will touch on every conceivable phase of safety.

This is the sixth Congress to be held in Chicago. The previous years were 1914, 1927, 1929, 1931 and 1933.

Consolidated Water Power & Paper Co. Adds Rice, Barton & Fales Machine

A large expansion program is in progress at the Wisconsin Rapids and Biron divisions of Consolidated Water Power and Paper Company, the work to be completed and equipment in operation by January 1, 1938. A new machine built to trim 124 inches and operating at 750 feet per minute is being installed in a new machine room building east of the present machine and extending out over the Wisconsin River. This machine is being manufactured by Rice, Barton & Fales of Worcester, Mass., and will be constructed strictly along the most modern lines.

Three Valley Iron Works Beaters

Three Valley Iron Works beaters are being installed for preparation of the stock. Three Bird Screens of the larger 3A model are to be a part of the machine as well as a Beloit Dual Press, two smoothing presses, and 32 5-foot driers preceding the coating machine. The coating machine is the company's own patented process and is the fifth coater to be installed in the Consolidated mills.

Along with the machine room building is a new finishing room extension which will contain the present supercalenders and two additional 134 inch supers as well as the individual winders.

Add Two Digesters

To furnish additional sulphite for the company's new paper making equipment, the company is installing two 16x48 twelve-ton digesters, the steel furnished and erected by the Manitowoc Ship Building Company. These two digesters are now complete and lined. In addition to the two large digesters, a smaller 6-ton unit is being installed to handle the culled wood which is used in board stock. This enlarges the sulphite mill to a total of 8 digesters two of which will be used for the cooking of birch, poplar, and other hard wood stock to take the place of soda pulp now being used. The total bleached sulphite to be produced will be in the neighborhood of 150 tons per day. All of the old and new digesters will be equipped with circulating systems to work in conjunction with the chemical hot acid system installed two years ago. Additional bleaching equipment is being installed in a new extension to the bleach plant structure.

Improved Paper Machinery Co. Washers

Consolidated will use the direct chlorination system similar to the system in use at the company's Appleton division. Along with the chlorinators are causticizing tanks. Improved Paper Machinery Company washers will handle the stock after the chlorinators and also following the causticizers. Wolf Hill washers now in operation will be used for final washing, and density regulators will effect uniform consistency to the beaters.

Fresh water filtration facilities are being enlarged to include three extra filtration beds in the plant.

To Pump Return Effluent

The pipe line which extends over a 4-mile stretch between Wisconsin Rapids and Biron and which has been in use for the pumping of sulphite to the Biron mill for ten years is now being supplemented with an additional pipe line which will enable the company to pump return effluent from the Biron division.

Of the four high pressure boilers at Wisconsin Rapids mill two are being equipped with extended stokers and water walls to give extra steam capacity needed by the new equipment.

Erecting New Office Building

A four-story office building is being constructed adjacent to the new finishing room at Wisconsin Rapids division. This structure will contain mill offices, laboratories, drafting room, first aid headquarters, conference rooms and other mill office facilities. At the center of this new building will be the main entrance and time clocks.

At Biron Division a large extension has been made to the finishing room, this structure containing two 150 inch supercalenders and one 110 inch supercalender together with necessary winders and cutters for the new grade of paper being made at that mill. The 160 inch machine has now been equipped with the company's coating machine and is operating steadily on the new process coated paper.

All building work is being handled by the company's own organization. General engineering, planning and designing is done by Consolidated engineers and the actual construction work is being performed by crews hired and supervised directly by the company. Structural steel is purchased from and erected by the Wisconsin Bridge and Iron Company of Milwaukee.

Sweden Increases Newsprint Production

Swedish newsprint production in July 1937 totaled 24,900 metric tons against 21,873 in July 1936, according to a report from Commercial Attache Charles E. Dickerson, Jr., Stockholm. Production of newsprint in June 1937 amounted to 18,288 metric tons. Total production for the period January-July 1937 was 154,573 metric tons as against 145,446 metric tons in the corresponding period in 1936. Mills reported no stocks on hand at the end of July 1937.

Exports of newsprint paper by countries of destination for July 1937 as compared with July 1936 show that the United States took 6,750 metric tons as against 6,694 for July 1936; Argentina took 3,091 tons as against 1,092 tons in 1936. France took 1,860 tons compared with 714 tons for July 1936, and the United Kingdom 1,757 metric tons as against 1,980 for the same month a year ago.

Exports of newsprint for the 7 months period, January-July inclusive for 1937, show that 50,899 tons went to the United States, 13,192 metric tons to Argentina and 10,655 tons to the United Kingdom. Total newsprint exports from Sweden for the period January-July 1937 were 114,120 metric tons as compared with 103,357 metric tons for the comparable period in 1936.

Taking the Barker to the Wood

The pulpwood barking equipment represented in the accompanying illustrations is novel—and practical to a fault. It consists of a standard 12 foot diameter by 45 foot, Canadian barking drum mounted on a steel barge for use in barking logs along the shores of Newfoundland before they are shipped to England.

The barge is 100 feet long by 30 feet wide by 9 feet deep and has a maximum draft of 5 feet. The supporting framework for the drum is an integral part of the barge framing.

Driven by Diesel Engine

The drum is driven by a 265 hp. Diesel engine. This engine also drives a 15 kw. generator and a 1,000 gpm. pump for washing logs at the discharge end of the drum and for sluicing the bark out of the side of the barge. A 20 hp. auxiliary Diesel engine drives a 12 kw. generator and the bilge pump.

The feed conveyor, which carries the logs from the water to the drum and the sorting conveyor at the discharge end of the drum are driven by the main shaft which rotates the drum. Two electric-driven wood peckers for cleaning out knots, etc. are located on the deck of the barge, one on each side of the sorting conveyor.

Living accommodations, including dining room and galley, are provided for a crew of 14. In addition, a small machine and blacksmith shop containing a lathe, emery wheel, grinder, pipe threading equipment, etc., is located under the vat of the barking drum.

Twenty-seven Different Timber Limits

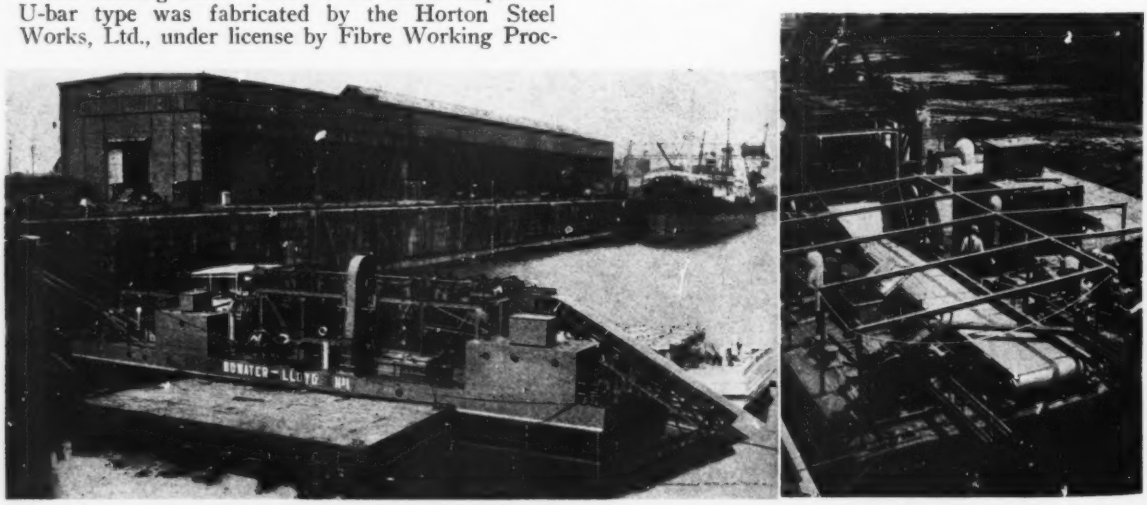
The craft was purchased by W. I. Bishop Ltd. for Bowater-Lloyd of England; St. John, Newfoundland being the port of registry. The company has timber limits in 27 different places in Newfoundland. By having the barking equipment on a barge it can be used at the various locations, eliminating the necessity of towing booms of logs to the drum.

The barking drum which is the chain suspended U-bar type was fabricated by the Horton Steel Works, Ltd., under license by Fibre Working Processes, Inc., Fort Erie, Ont., and installed at the Canadian Vickers Company plant in Montreal. John Stadler of Montreal was consultant and W. F. Fletcher & Company, naval architects and designers.

Publishers Expect Lower Newsprint

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., November 22, 1937.—According to information received here, the American Newspaper Publishers Association, in its opposition to the price increase agreed upon by Canadian newsprint manufacturers, is sounding out its members on their feelings about "the necessity of paying $2 a ton more for newsprint in the first half, and an indefinite amount a ton more in the second half of 1938, than your competitor may have to pay." The view of the association appears to be that with the prospects of general business declining in the United States, consumption of newsprint is bound to decline accordingly, and that the claims made earlier in the year of an impending shortage of newsprint are not likely to be fulfilled. Meanwhile there have been no new developments in the price situation here, nor any intimation that those Canadian producers who have adhered to the price advance announced some time ago will recede from their position. Like most other lines of industry, newsprint manufacturers have been faced with marked increases in cost of production, and hold that the increase they have announced is fully justified. How the five-day-week schedule, not in general force in the industry, affects production has not been revealed by official figures. It is worth noting, however, that while the monthly increase in production up to September last, as compared with the similar month of the previous year, ranged from 26 per cent to 75 per cent, the increase in October over October, 1936, was only 4.4 per cent. From various logging centers in eastern Canada, the news comes that preparations for the winter's cut of lumber and pulpwood are on a less extensive scale than was the case last winter.



LEFT—VIEW SHOWING PULPWOOD BARKING EQUIPMENT. RIGHT—VIEW SHOWING SORTING CONVEYOR AT DISCHARGE END OF THE BOWATER-LLOYD SEA-GOING BARKING DRUM.

Paper Production Rise Over 1936 Peak At Slower Rate

Hesitancy, which has permeated many trade divisions exerted a lighter retardative influence on the paper industry. Even though operations have slackened in some branches since summer, production for the ten months remained by a narrow range above the peak of the corresponding 1936 period. Because of the rush of place orders last Spring, buying in wholesale markets also contracted from first-quarter proportions, but exceeded the 1936 volume. With both mills and wholesalers, there was more recession in coarse papers than in fine papers and newsprint.

Going 12.4 per cent over the 1929 peak of 3,406,552 short tons, newsprint production in the United States and Canada for the ten months of 1937 established a new record at 3,828,271 tons, according to the News Print Service Bureau. This exceeded the annual production of every year from 1930 to 1935, inclusive. Despite the restricted flow of new orders since early Fall, manufacturers estimated the 1937 production of paper and paperboard at 12,575,000 tons, or about 5 per cent ahead of the 1936 all-time high, computed at 11,975,552 tons by the Bureau of Census.

Reopening of closed plants, starting long-idle machines, and speeding up existing ones provided the increased productive capacity for the newsprint division, as no additional plants were constructed. At other mills, production facilities were enlarged about 10 per cent this year by rehabilitation and building programs. Price structure generally was firm, with production curtailment planned to maintain steadiness. These were some of the major developments revealed by a survey of the paper industry, which has just been completed by Dun & Bradstreet, Inc.

Mill Schedules Reduced

Production in both the fine and coarse paper divisions of the industry was curtailed abruptly in August, and by October the contraction became tighter. Mills operating formerly on a six-day basis dropped to five or four days a week on lowered daily schedules. From a jump of 15 per cent for the first five months over the 1936 peak, the recession after June left the October rate of output under last year's. This cut the production gain over the ten months of 1936 to 5 to 15 from 10 to 30 per cent for the first quarter.

No slowing of newsprint output became evident until October. As a result of the recently-initiated curtailment program, October production of 392,946 tons for the United States and Canada was only 2.8 per cent more than the 382,172 for October, 1936. This was the smallest year-to-year gain in twenty-two months. Each of the ten months of 1937, however, marked a new high for the period. In an unbroken rise from April, August production reached 399,024 tons, the largest monthly total in the history of the industry.

With five new highs attained during the period, combined newsprint production of the United States and Canada for the ten months of 1937 amounted to 3,828,271 short tons. This total surpassed every corresponding one in the tabulation of the News Print Service Bureau. It went 13.8 per cent over the 1936 ten-month output of 3,364,510 tons, 27.4 per cent over 1935, 31.0 over 1934, and 57.9 per cent over the 1933 low. The ten-month peak of 3,406,552 tons, which has been unmatched since 1929, was topped by 12.4 per cent.

Wholesale Orders Fewer

Spring bulge in orders to wholesalers of paper was built on a temporary shortage of pulp, rising prices, and imminent delivery delays, as labor outbreaks spread. With more pulp available and prices steadied, orders started to slacken. In some divisions, the Summer recession was deeper and more prolonged than usual, and inventories were heavier than for the corresponding period of the year preceding. Orders for paper specialties increased during the Summer, running from 10 to 15 per cent beyond the 1936 volume.

Instead of a year-to-year spread of 15 to 40 per cent recorded for the first quarter, the irregular downtrend after May had shortened the rise in wholesale orders for the ten months of 1937 to a range of 10 to 20 per cent from the 1936 volume. Most of this favorable showing was contributed by the larger tonnage. Part of it was due to the moderate price advances and the stronger demand for the better quality merchandise. The percentage of gain was wider in bond and catalogue papers than in the coarser grades.

A few exceptional houses were well occupied through October. The majority of wholesalers, however, reported a marked decline starting in August, which was accentuated during September. As a result, orders for the third quarter lagged 2 to 4 per cent behind the total for the second one. September still was ahead of its 1936 comparative. October orders with many concerns, however, were under the previous year's volume by 3 to 5 per cent.

Newsprint Prices Higher

Upward revisions predominated in wholesale price alterations this year. Two or three narrow mark-ups in the first six months, however, had advanced quotations not more than 5 to 10 per cent from 1936 positions. Most of the increases were on coated, bond, tablet, uncoated white, and some of the book, magazine, gumming, and waxing grades.

During the late summer, the rise in pulp quotations was halted by growing supply. In October, book paper was reduced about $5 a ton, writing paper turned easier, and most of the coarse grades became steadier. Controversy over the 1938 contract price of newsprint started in September. In the final decisions in October, two prices had been named.

One of the large producers set $48 a short ton for the first half of 1938 and $50 for the last half. The others agreed on $50 for the first half, with the last-half price to be announced later. The $50 represented a rise of $7.50 from the $42.50 for 1937. It was the

third rise since 1933, when $40 a ton was the lowest price in thirty years.

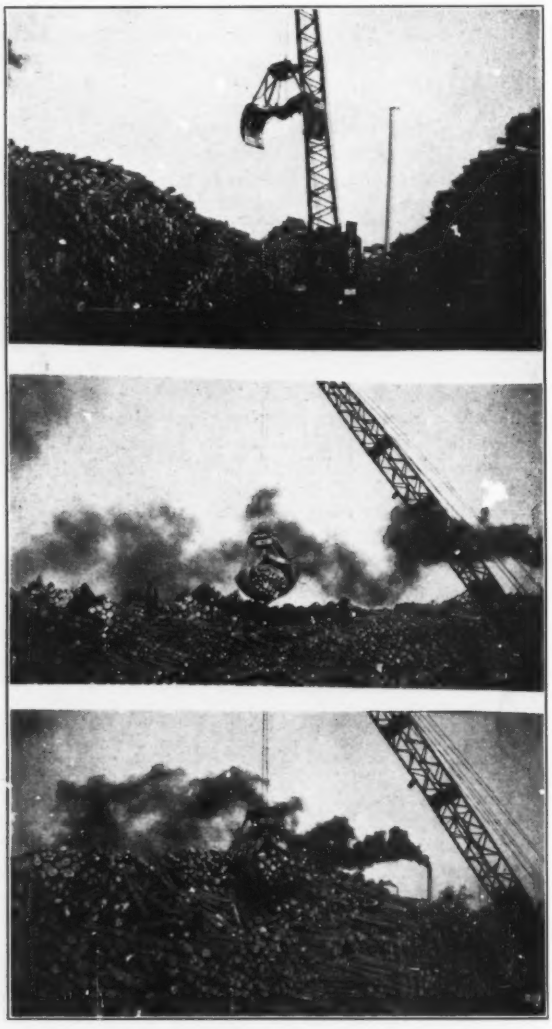
More 77-B Applications

From 2 for the twelve months of 1936, the number of 77-B cases listed for paper manufacturers rose to 4 in the ten months of 1937. As 1 application was filed by a wholesaler, the total for the period was 5, the highest since the 12 for 1935. For 1934, the number was 4. Excepting this year's, annual totals were comprised of manufacturers.

Bankruptcies, on the other hand, continued the unchecked downtrend that started in 1933. With 1 manufacturer and 7 wholesalers and retailers, the 8 failures for the ten months were one-half the number for all of 1936, when 16 represented a new low. Average liabilities per failure also declined, dropping to $10,500 from $39,560 in 1936.

Modernized Handling of Pulpwood

Current expansion in the pulp and paper industry is focusing attention on modernized and improved methods of handling pulpwood. The new $4,000,000 Chesapeake-Camp paper mill at Franklin, Va., and other kraft paper producers in the South, are obtaining improved pulpwood handling by the use of a new grapple recently developed by the Blaw-Knox Company of Pittsburgh, Pa.



BLAW-KNOX GRAPPLE

The accompanying photographs show the use of this Blaw-Knox grapple, one of 16 square foot load area, in the handling of five foot pulpwood at the mill of the Chesapeake-Camp Corporation. The grapple weighs 5,000 pounds and can accommodate wood lengths ranging from 4 to 18 feet. Sufficient closing power is provided to insure full loads even when handling logs of 18 foot length and diameters of 12 to 14 inches.

When grappling 18 foot logs from cars, it has been observed that about five minutes will permit the unloading of an entire car. This includes the necessary time for shifting the crane from one car to another, each car consisting of three full grapple loads and a remaining part load of three or four logs. The tool's utility applies equally to the operation of rehandling from corded piles or to the building up of corded piles for storage when unloading cars.

This new grapple is a distinct departure from conventional types, and its design possesses certain new features which result in a material reduction of weight. It is thus possible to increase substantially the payload that can be handled with a crane of given capacity.

As its salient feature of design, this tool has two head pins spread well apart which eliminate the need for any form of counterweight at the center for opening. The object of two head pins becomes evident when it is realized that the opening force obtained by this design is equivalent to that which would be obtained by the location of one head pin several feet above the grapple at a point where the axes of the two corner bars intersect. It is likewise apparent that height limitations, and the necessity for working under limited headroom, make it impractical to use only one head pin without introducing some form of counterweight to obtain the necessary opening force.

The use of welded box section tine construction and sheave blocks for closing are other features which contribute to large capacity and light weight construction. It will be noted that no part of the closing mechanism (lower sheave block) encroaches upon the load area of the grapple.

These tools are made in standard sizes, having load areas (as embraced by the closed grapple) of 8, 12, 16, and 20 square feet. A uniform width of 3 feet 6 inches is adequate for the handling of wood lengths up to 18 feet.

Drop Standard Paper Co.

At a meeting of the directors of the Sutherland Paper Company, held November 15, under amended articles the corporate name of the Standard Paper Company was dropped. The Standard Paper Company was organized in the early 1900's and in 1928 was merged with the Sutherland Paper Company. At that time the assets of the Standard were completely taken over by the Sutherland Paper Company, but a new Corporation known as the Standard Paper Company was formed merely to perpetuate the name. The officers and directors feel there is no further need for this perpetuation, hence their action.

Obituary

Arthur W. Petersen

On Monday, November 15, Arthur W. Petersen, manager of the San Jose division of Blake, Moffitt & Towne, died of a heart attack at Willows, Calif. Apparently in the best of health and having enjoyed a week-end of hunting, he was returning home when the attack occurred. His many friends and associates in the paper and printing fields were shocked by the news of his sudden passing.

Mr. Peterson's connection with Blake, Moffitt & Towne began in 1930 at the Oakland division and just 8 months ago he was appointed manager of the San Jose house. His 18 years experience in the paper business began in 1919 when he joined a local paper house in Sacramento, Cal., where he later held an executive position prior to joining Blake, Moffitt & Towne.

Mr. Peterson was 42 years of age and was a native of Illinois, having been born in Chicago. He attended Heidelburg University at Tiffin, Ohio and when the U. S. entered the World War he went overseas with the Marine Corps where he saw active service.

Outside of business, his chief interest was his home and the outdoor life of hunting and fishing. He leaves a widow and four children. Funeral services conducted at San Francisco followed by a military funeral at the Presidio Chapel, San Francisco, were attended by a large group of friends and associates.

Paul W. Viets

[FROM OUR REGULAR CORRESPONDENT]

PLYMOUTH, Mass., November 22, 1937—Paul W. Viets, 43, who came here ten years ago as industrial relations manager for the Plymouth Cordage Company, died Thursday at his residence on Warren avenue after a brief illness. He was a nationally known expert on industrial relations.

Formerly head of a placement bureau for Massachusetts State College graduates he lectured on industrial relations at Amherst College, Massachusetts Institute of Technology and at Boston University. He was formerly president of the Eastern College Personnel Association.

Mr. Viets was a member of the Plymouth town finance board and had served on many town committees. Born in Woodstock, Conn., he was educated at Concord High School, Concord, Mass., and Massachusetts State College and was graduated from Massachusetts Institute of Technology. He was a lieutenant in the Army during the war and later was associated with the division of reconstruction at Walter Reed Hospital in Washington.

Surviving are his wife, the former Marjorie Dean; his mother, two sisters, and two daughters.

Robert B. Parker

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., November 22, 1937—Robert B. Parker, 42 year old president and chairman of the board of the Dwight Bros. Paper Company, died November 14 in the Passavant Hospital, Chicago. Mr. Parker was widely known in the paper industry and his funeral was reported to have been attended by the largest gathering of paper executives ever held in the city outside of regular meetings. Hundreds of friends and associates paid tribute to the sterling character of one of the most respected and admired members of the industry.

Mr. Parker came to Chicago in 1915 from Topeka, Kansas. He served in the 333rd Field Artillery during the world war. Following the war Mr. Parker became connected with the J. W. Butler Paper Company which he left in 1933 to assume the leadership of the Dwight organization. He is survived by his widow, Frances Parker.

W. Hamilton Barnum

W. Hamilton Barnum, 59, secretary of the Noble Paper Company and an internationally-known stamp collector, died suddenly yesterday at his residence, 1844 E. 90th street, Cleveland, Ohio, of a cerebral hemorrhage.

Mr. Barnum, a lifelong resident here, was formerly the manager of the fine paper department of the Union Paper & Twine Co. After 22 years' service there, he resigned to become a partner in the Noble Paper Co. in 1934.

One of the members in longest standing in the Garfield-Perry Stamp Club, Mr. Barnum, who joined the club in 1894, held many offices in the organization. He was also vice president and a former secretary of the American Philatelic Society.

Surviving Mr. Barnum are his wife, Grace, and a sister, Mrs. Frances Barnum Smith of Detroit.

Oxford Paper Co. Makes Improvements

During the current year, the Oxford Paper Company has continued to carry out its policy of plant improvement. The program of modernization of paper machines includes the installation of suction first press rolls, Beloit three roll press, new removable Beloit Fourdrinier, new hypoid gear drives, and a general improvement in drying conditions through the installation of Ross Grewin systems, additional dryers and improved ventilation.

Earlier this year, the Oxford Paper Company acquired the Rumford property of the Continental Paper & Bag Corporation and, after the construction of a modern bleach plant, has been operating this unit in the production of bleached sulphite pulp.

The plant betterment program is evident in all departments where modern, efficient eqiupment, such as screens, washers, rewinders, control systems, drives and other refinements make for uniformity and cleanliness of the product, together with efficient operating conditions.

To Build Paper Mill at Vera Cruz

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 24, 1937—A wrapping paper plant with a capacity of from 10 to 12 metric tons per day is being constructed at Orizaba, state of Veracruz, Mexico, according to a report recently received from the office of the Commercial Attache in Mexico City. The new enterprise will utilize cane pulp obtainable at Veracruz sugar mills at a reported cost of 7 Pecos per metric ton. It is reported that the machinery now being installed was purchased in the United States with the exception of some drying equipment and motors which were purchased in Germany.

Government Paper Bids and Awards

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., November 24, 1937.—The Government Printing Office has announced the following paper awards.

R. P. Andrews Paper Company will furnish 36,000 pounds (86,000 sheets) of 21 x 32 manila cardboard at 4.25 cents per pound, bids for which were received on October 27.

National Pulp and Paper Company will furnish 300,000 pounds of newsprint paper at 2.5 cents per pound, bids for which were received on October 22.

Mathers-Lamm Paper Company will furnish 1,440 pounds of 21 x 32 white tissue paper at 11.82 cents per pound and the Cauthorne Paper Company will furnish 600 pounds of red stereotype molding paper at 14 cents per pound. Bids for these items were received on October 20.

R. P. Andrews Paper Company will furnish 330,000 pounds (769,000 sheets) of U. S. postal card bristol board at 5.9 cents per pound and the Mathers Lamm Paper Company will furnish 1,140 reams (570,000 sheets) of white sulphite ledger paper at 59 cents per ream. Bids for these items were received on October 18.

Enterprise Paper Company will furnish 41,100 pounds (450,000 sheets) of No. 2 kraft wrapping paper at 4.336 cents per pound, bids for which were received on October 15.

Barton, Duer & Koch Paper Company will furnish 40,000 pounds of ivory colored calendered tag board at 8.5 cents per pound, bids for which were received on October 11.

Russell Products Company will furnish 500 pounds of facing stereo tissue paper at 83 cents per pound and the Whitaker Paper Company will furnish 10,000 sheets of 22 x 28 inch gray photo mount board at $36.59 per M sheets. Bids for these items were received on October 8.

Whitaker Paper Company will furnish 5,000 pounds of No. 1 gummed kraft paper at 8.83 cents per pound, bids for which were received on October 6.

R. P. Andrews Paper Company will furnish 3,000 pounds (50,000 sheets) of 24 x 36 No. 2 kraft wrapping paper at 5.2 cents per pound, bids for which were received on October 1.

Marquette Paper Company will furnish 150,000 pounds of supercalendered book paper in 38 inch rolls at 5.74 cents per pound, bids for which were received on September 29.

The Printing Office has received the following bids for 21,525 pounds of 50 per cent rag, white ledger paper; Barton, Duer & Koch Paper Company, 11.59 cents per pound; Aetna Paper Company, 11.368 cents; R. P. Andrews Paper Company, 13.75 cents; Stanford Paper Company, 12.17 cents; Whitaker Paper Company, 14.5 cents; Graham Paper Company, 11.55 cents; L. Hyman & Sons, 11.44 cents; Dobler & Mudge, 14.5 cents; Paper Corporation of U. S., 12.19 cents; Mathers-Lamm Paper Company, 11.11 cents; and Charles W. Beers & Co., 14.75 cents less 2 per cent.

Michigan Superintendents Meet

The November meeting of the Michigan Division of the American Pulp and Paper Mill Superintendents Association was held at the Park-American Hotel on Thursday Nov. 18th, at 7:00 P. M. General Chairman, Dan Stacy, presided and Ray Barton served as secretary in the absence of Al. Perlick, who is in the North Woods on a hunting trip.

The meeting was preceded by a dinner with about fifty present. Mr. Stacy introduced John L. Kerr, district turbine specialist with the General Electric Company, as the speaker. With the assistance of a blackboard and some slides, Mr. Kerr made this highly technical subject interesting to the members present and held their absolute attention during his address. He requested his audience in his opening remarks, to break in on him at any period during his talk when they wished to ask a question. This they did and upon closing a short forum was also held. Among those noted at the tables were the following:

H. C. Pearson, Pioneer Paper Stock Company; L. H. La Liberte, K. V. P.; Ray L. Barton, Michigan Paper Company; Dan Stacy, American Box Board Company; Merrit Lawrence, P. Y. Tumy and J. L. Kerr, General Electric Company; Arthur McPhillips, Simons Worden White Company; Jake Parent, Noble Wood Manufacturing Company; Mike Redmond and James A. Wise, Kalamazoo Paper Company; F. G. French and R. L. Zellers, French Paper Company.

C. "Baldy" Smith, Huron Milling Company; W. M. Nash, Gilbert & Nash Company; W. B. Hadley, Detroit Paper Products Corporation; M. S. Fogerty, Michigan Paper Company; Gordon Markle, DuPont Company; Wm. H. Astle, Michigan Paper Company, J. F. Shuman, Atterbury Brothers, Inc.; A. W. Cole, Rex Paper Company; S. V. Cothrell, National Aniline and Chemical Company; Robert B. Stewart, Kalamazoo Vegetable Parchment Company; Arnold Weller, Sutherland Paper Company; John C. Marrone, Haberland Manufacturing Company; G. H. Rentrop and H. A. Lynette, Westinghouse Electric and Manufacturing Company.

E. Dunton, Sutherland Paper Company; E. A. Radent, Hercules Powder Company; Barney Benson and H. B. Gerber, Williams Gray Company; N. J. Cowie, Hawthorne Paper Company; R. M. Emons, and H. C. Bradford, Rex Paper Company; Jacob Boodt, Bryant Paper Company; Karl Hein, H. D. Jager and Lee Aller Kalamazoo Paper Company; Paul De Guchery, Michigan Paper Company; A. L. Sherwood, Sutherland Paper Company.

Kimberly-Clark Add Two Yankee Machines

The Kimberly-Clark Corporation, at its Lakeview mill, has just placed in operation a 132-inch Yankee machine. Another 132-inch Yankee machine is being installed and will begin operation about the first of December. Both of these machines will be used for the manufacture of crepe wadding specialities.

The company has also installed a sulphite bleach plant of about 40 tons daily capacity, using Vortex beaters for this purpose. The company has also erected a five story building in which it will consolidate all the Kotex and Kleenex manufacturing activities in Wisconsin. These improvements, it is expected, will be completed about the middle of December.

At Kimberly, the company has installed one dual press and additional driers on one of its machines. It will gradually rebuild all the machines in the same manner. This program, it is expected, will be completed about the middle of next year.

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SVANÖ AKTIEBOLAG
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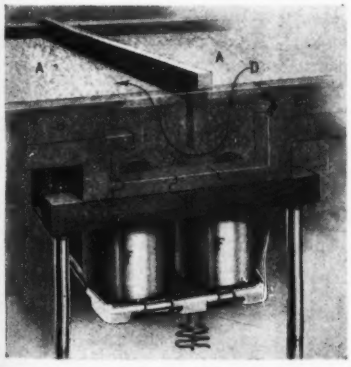

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NEW YORK IMPORTS
WEEK ENDING NOVEMBER 20, 1937
SUMMARY

Cigarette Paper .....242 cs.
Wall Paper .....32 bxs., 18 bls., 5 cs.
Paper Hangings .....16 bls., 1 cs.
Newsprint .....6,579 rolls
Printing Paper .....81 cs.
Wrapping Paper .....59 bls.
Packing Paper .....24 cs.
Filter Paper .....5 cs.
Drawing Paper .....3 cs.
Surface Coated Paper .....18 cs.
Surface Baryta Coated Paper .....129 crates, 30 cs.
Metal Covered Paper .....25 cs.
Basic Paper .....51 crates, 50 cs.
Tisue Paper .....6 cs.
Tracing Cloth .....51 cs.
Writing Paper .....23 cs.
Colored Paper .....19 cs.
Paper Tubes .....119 ctns., 54 cs.
Miscellaneous Paper .....509 rolls, 406 bls., 93 cs.

CIGARETTE PAPER

H. H. Strauss, *Champlain,* Havre, 225 cs.
De Mauduit Paper Corp., *Champlain,* Havre, 2 cs.
Liggett & Myers Tobacco Co., *Champlain,* Havre, 15 cs.

WALLPAPER

F. J. Emmerich, *Laconia,* Liverpool, 2 bls., 1 cs.
F. J. Emmerich, *Deutschland,* Hamburg, 16 bls., 4 cs.
S. K. Lonegren, *Gripsholm,* Gothenburg, 32 bxs.

PAPER HANGINGS

W. H. S. Lloyd & Co., *American Farmer,* London, 16 bls., 1 cs.

NEWSPRINT

N. Y. Evening Journal, *Markland,* Liverpool, N. S., 631 rolls.
N. Y. Tribune, *Markland,* Liverpool, N. S., 2053 rolls.
World Telegram, *Markland,* Liverpool, N. S., 596 rolls.
Brooklyn Daily Eagle, *Markland,* Liverpool, N. S., 24 rolls.
Westchester Newspapers, Inc., *Markland,* Liverpool, N. S., 40 rolls.
N. Y. Post, *Markland,* Liverpool, N. S., 677 rolls.
Parsons & Whittemore, Inc., *Markland,* Liverpool, N. S., 297 rolls.
Sharp Paper & Specialty Co., *Markland,* Liverpool, N. S., 96 rolls.
International Paper Co., *G. T. D.,* Gatineau, 308 rolls.
International Paper Co., *International No. 1,* Gatineau, 314 rolls.
H. G. Craig Co., Inc., *G. D. D.,* Donnacona, 311 rolls.
Walker Goulard Plehn Co., Inc., *Scanpenn,* Kotka, 135 bls.
Perkins Goodwin & Co., *Deutschland,* Hamburg, 398 rolls.
Jay Madden Corp., *Deutschland,* Bremen, 336 rolls.
Jay Madden Corp., *Scanstates,* Kotka, 363 rolls.

PRINTING PAPER

Japan Paper Co., *American Farmer,* London, 1 cs.
E. Dietzgen & Co., *Deutschland,* Hamburg, 57 cs.
Steiner Paper Corp., *Deutschland,* Bremen, 13 cs.

WRAPPING PAPER

Heemsoth Kerner Corp., *Deutschland,* Bremen, 59 bls.

PACKING PAPER

——, *Deutschland,* Bremen, 24 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., *American Farmer,* London, 4 cs.
E. H. Sargent & Co., *Gripsholm,* Gothenburg, 1 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., *American Farmer,* London, 3 cs.

SURFACE COATED PAPER

Dingelstedt & Co., *Ilsenstein,* Antwerp, 18 cs.

SURFACE BARYTA COATED PAPER

L. A. Consmiller, *Deutschland,* Bremen, 30 cs.
Globe Shipping Co., *Deutschland,* Bremen, 129 crates.

METAL COVERED PAPER

K. Pauli Co., *Deutschland,* Bremen, 22 cs.
Taub Hummell & Schnall, *Deutschland,* Bremen, 3 cs.

BASIC PAPER

Globe Shipping Co., *Deutschland,* Bremen, 51 crates, 50 cs.

TISSUE PAPER

B. F. Drakenfeld & Co., *Laconia,* Liverpool, 6 cs.

TRACING CLOTH

E. Dietzgen & Co., *American Importer,* Manchester, 8 cs.
Keuffel & Esser Co., *American Importer,* Manchester, 25 cs.
C. Bruning & Co., *Deutschland,* Bremen, 18 cs.

WRITING PAPER

——, *Deutschland,* Hamburg, 23 cs.

COLORED PAPER

——, *Deutschland,* Hamburg, 15 cs.
D. C. Andrews & Co., *Deutschland,* Bremen, 4 cs.

PAPER TUBES

——, *Deutschland,* Bremen, 119 ctns., 54 cs.

MISCELLANEOUS PAPER

Japan Paper Co., *Yamatazo Maru,* Kobe, 84 cs.
The Borregaard Co., Inc., *Gripsholm,* Gothenburg, 509 rolls, 80 bls.
F. L. Kramer & Co., *Gripsholm,* Gothenburg, 326 bls.
Japan Paper Co., *Gripsholm,* Gothenburg, 2 cs.
Ensign Manfg. Co., Inc., *Eidsvold,* Yokohama, 7 cs.

RAGS, BAGGING, ETC.

W. Steck & Co., *Excello,* Naples, 143 bls. rags.
Hicks Costarino & Co., *Excello,* Naples, 159 bls. rags.
R. Blank, *Excello,* Naples, 138 bls. rags.
Keene, Inc., *Excello,* Naples, 126 bls. old cottons.
——, *Excello,* Naples, 26 bls., rags, 81 bls. bagging.
——, *Excello,* Genoa, 214 bls. rags, 132 bls. bagging, 72 bls. old cottons.
——, *Excello,* Marseilles, 174 bls., rags.
Brown Bros., Harriman & Co., *Barbarigo,* Trieste, 158 bls., rags.
E. J. Keller Co., Inc., *Yamatazo Maru,* ——, 39 bls. hemp waste.
H. Schimmel, Inc., *Yamatazo Maru,* Osaka, 200 bls. cotton waste.
M. R. Ziegler, *Yamatazo Maru,* Osaka, 50 bls., coton waste.
National City Bank, *Yamatazo Maru,* Osaka, 50 bls. rayon waste.
——, *American Importer,* Manchester, 45 bls., paper stock.
M. Snedeker Corp., *American Importer,* Belfast, 96 bls., paper stock.
——, *Ilsenstein,* Antwerp, 19 bls., thread waste.
Chase National Bank, *Ilsenstein,* Antwerp, 105 bls., bagging.
W. Steck & Co., *Sarcoxie,* Havre, 61 bls., old strings.
Keene, Inc., *Sarcoxie,* Havre, 46 bls., rags.
D. Benedetto, Inc., *Sarcoxie,* Havre., 165 bls., rags.
Castle & Overton, Inc., *Sarcoxie,* Havre, 155 bls., bagging.
E. J. Keller Co., Inc., *Eidsvold,* ——, 204 bls., paper stock.

GLUE STOCK

American Express Co., *American Importer,* Liverpool, 826 bags hide cutitngs.
Irving Trust Co., *McKeesport,* Liverpool, 270 bags picker waste.

OLD ROPE

D. Benedetto, Inc., *Sarcoxie,* Havre, 78 coils.
Chase National Bank, *Montreal City,* Bristol, 113 coils.
W. Steck & Co., *Veendam,* Rotterdam, 47 coils.
E. J. Keller Co., Inc., *Clara,* ——, 54 coils.

CHINA CLAY

English China Clays Sales Corp., *Laconia,* Liverpool, 84 bags.

WOOD PULP

J. Andersen & Co., *Tyrifjord,* Greaker, 2000 bls., sulphite.
Price & Pierce, Ltd., *Tyrifjord,* Greaker, 3250 bls., sulphite.
Price & Pierce, Ltd., *Tyrifjord,* Sarpsborg, 100 bls., sulphite.
E. M. Sergeant Pulp & Chemical Co., *Tyrifjord,* Nygard, 300 bls., chemical pulp.
Chase National Bank, *Tyrifjord,* Tofte, 2400 bls., sulphite.
Irving Trust Co., *Tyrifjord,* Oslo, 4250 bls., chemical pulp.

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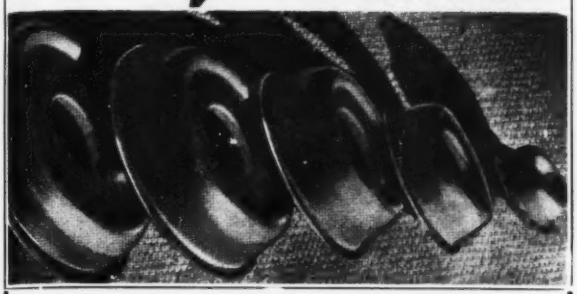

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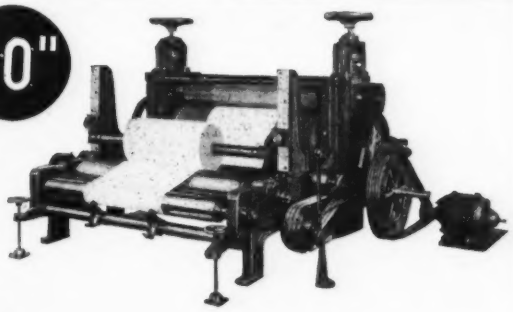

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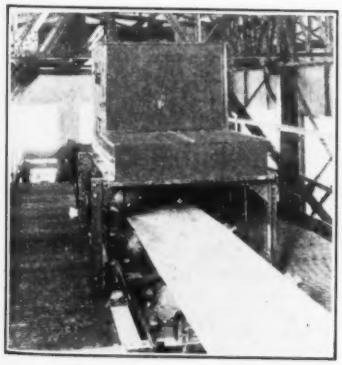

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NAME TITLE

COMPANY

ADDRESS

M. Sone, *Barbarigo,* Trieste, 1936 bls., wod pulp.
Guaranty Trust Co., *Barbarigo,* Trieste, 1818 bls., wood pulp.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Obbola, 2450 bls., sulphate, 350 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Munksund, 200 bls sulphate, 25 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Sundsvall, 150 bls., sulphate, 25 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* 120 bls., knotter pulp, 20 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* 125 bls., sulsulphite, 25 tons.
——, *Kersten Miles,* Hernosand, 1053 bls., sulphate, 175 tons.
——, *Kersten Miles,* Hernosand, 1650 bls., sulphite, 275 tons.
Bulkley Dunton Pulp Co., Inc., *Scanpenn,* ——, 1200 bls., sulphite, 203 tons.
Lagerloef Trading Co., *Scanpenn,* Helsingfors, 200 bls., mechanically ground, 52 tons.
Castle & Overton, Inc., *Scanpenn,* Helsingfors, 903 bls., wood pulp, 129 tons.
Lagerloef Trading Co., *Scanpenn,* Kotka, 296 bls., sulphite, 50 tons.
Lagerloef Trading Co., *Scanstates,* Helsingfors, 771 bls., sulphite, 131 tons.

WOOD PULP BOARDS

Jay Madden Corp., *Scanpenn,* Helsingfors, 248 bls.
Jay Madden Corp., *Scanpenn,* Kotka, 230 rolls, 244 bls.
Salwen Paper Co., *Gripsholm,* Gothenburg, 48 bls.
H. Fuchs & Son, *Gripsholm,* Gothenburg, 45 crates.

NEWARK IMPORTS

WEEK ENDING NOVEMBER 20, 1937

H. G. Craig Co., Inc., *Donpaco,* Donnacona, 306 rolls newsprint.

ALBANY IMPORTS

WEEK ENDING NOVEMBER 20, 1937

Brown Bros., Harriman & Co., *Kersten Miles,* Hernosand, 6000 bls., sulphate, 1000 tons.
Brown Bros., Harriman & Co., *Kersten Miles,* Stugsund, 450 bls., sulphite, 90 tons.
——, *Kersten Miles,* Stugsund, 1500 bls., sulphite, 300 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Sundsvall, 1000 bls., chemical pulp, 200 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Sundsvall, 3757 bls., sulphite, 740 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Sundsvall, 17050 bls., sulphate, 175 tons.
Bulkley Dunton Pulp Co., Inc., *Kersten Miles,* ——, 1000 bls., sulphite, 200 tons.
——, *Hallaren,* Iggesund, 3375 bls., sulphite.
Tradesmans Nat'l. Bank Trust Co., *Hallaren,* Norrsundet, 3825 bls., sulphate.
Pagel Horton & Co., Inc., *Hallaren,* Sikea, 6450 bls., sulphite.
Pagel Horton & Co., Inc., *Hallaren,* Gefle, 10750 bls., sulphite.
Pagel Horton & Co., Inc., *Hallaren,* Gefle, 3125 bls., sulphate.

PORTLAND IMPORTS

WEEK ENDING NOVEMBER 20, 1937

Gottesman Co., Inc., *Rexholm,* Sweden, 3000 bls., sulphite.
Pagel Horton Co., Inc., *Korsholm,* Sweden, 6192 bls., wood pulp.

BOSTON IMPORTS

WEEK ENDING NOVEMBER 20, 1937

Perkins Goodwin & Co., *Kersten Miles,* Obbola, 2044 bls., sulphate, 292 tons.
Perkins Goodwin & Co., *Kersten Miles,* Munksund, 2748 bls. sulphate, 458 tons.
——, *Kersten Miles,* Stugsund, 1500 bls., sulphite, 300 tons.
——, *Kersten Miles,* Stugsund, 125 bls., sulphate, 25 tons.
Brown Bros. Harriman & Co., *Kersten Miles,* Stugsund, 830 bls., sulphate, 166 tons.
— —, *Kersten Miles,* Hernosand, 180 bls., sulphate, 30 tons.
——, *Kersten Miles,* Hernosand, 2850 bls., sulphite, 475 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Hernosand, 125 bls., chemical pulp, 25 tons.
Johaneson Wales & Sparre, Inc., *Kersten Miles,* Hernosand, 2125 bls., sulphite, 390 tons.
Mead Sales Co., Inc., *Kersten Miles,* Hernosand, 150 bls., sulphite, 25 tons.
Perkins Goodwin & Co., *Kersten Miles,* Hernosand, 7850 bls., sulphite, 1341 tons.
Bulkley Dunton Pulp Co., Inc., *Kersten Miles,* ——, 4400 bls., sulphite, 750 tons.
——, *Sarcoxie,* Dunkirk, 16 bls., rags.
Continental Bank Trust Co., *Eidsvold,* Yokohama, 99 bls., rags.
Gottesman & Co., Inc., *Toledo,* Norway, 3000 bls., sulphite.
Parsons & Whittemore, Inc., *Lippe,* ——, 838 bls., wood pulp.
M. Sone, *Barbarigo,* Trieste, 450 bls., wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING NOVEMBER 20, 1937

J. M. Hagy Waste Works, *Yamatazo Maru,* Kobe, 170 bls., rags.
——, *Yamatazo Maru,* Kobe, 50 bls., coton waste.
Jay Madden Corp., *Scanpenn,* Wiborg, 48 bls., wood pulp boards, 6 tons.
Jay Madden Corp., *Scanpenn,* Kotka, 482 bls., wood pulp boards, 71 tons.
Lagerloef Trading Co., *Scanpenn,* Kotka, 1191 rolls wood pulp boards, 129 tons.
J. W. Hampton, Jr., & Co., *Scanpenn,* Kotka, 765 rolls newsprint.
Paper House of Pennsylvania, *Scanpenn,* Copenhagen, 17 cases wrapping paper.
Price & Pierce, Ltd., *Scanstates,* Stockholm, 180 bls., sulphite, 30 tons.
J. W. Hampton Jr., & Co., *Scanstates,* Kotka, 485 rolls newsprint.
Wilkinson Bros., & Co., Inc., *Scanstates,* Kotka, 70 rolls newsprint.
Jay Madden Corp., *Scanstates,* Kotka, 304 rolls newsprint.
Jay Madden Corp., *Scanstates,* Wiborg, 36 rolls wood pulp boards, 18 tons.
Lagerloef Trading Co., *Scanstates,* Wiborg, 523 bls., sulphate, 104 tons.
Neidich Process Co., *Scanstates,* Helsingfors, 57 bbls., paper.
E. J. Keller Co., Inc., *Eidsvold,* ——, 950 bls., rags.
——, *Eidsvold,* Kobe, 374 bls., rags.
F. Weber & Co., *Barbarigo,* Genoa, 3 cs., drawing paper.

WILMINGTON IMPORTS

WEEK ENDING NOVEMBER 20, 1937

Guaranty Trust Co., *Clara,* Trieste, 1992 bls., sulphite.
Lagerloef Trading Co., *Scanstates,* Kotka, 1196 rolls wood pulp boards, 126 tons.
Lagerloef Trading Co., *Scanstates,* Wiborg, 6420 bls., sulphite, 1284 tons.

BALTIMORE IMPORTS

WEEK ENDING NOVEMBER 20, 1937

Castle & Overton, Inc., *Scanpenn,* Wiborg, 498 bls., wood pulp, 99 tons.
Lagerloef Trading Co., *Scanpenn,* Wiborg, 830 bls., sulphite 166 tons.
Lagerloef Trading Co., *Scanpenn,* Wiborg, 240 bls., sulphate, 40 tons.
Jay Madden Corp., *Scanpenn,* Kotka, 511 rolls newsprint.
Jay Madden Corp., *Scanpenn,* Kotka, 167 bls., wood pulp boards, 25 tons.
Lagerloef Trading Co., *Scanpenn,* Kotka, 1400 bls., mechanically ground pulp, 280 tons.
Lagerloef Trading Co., *Scanpenn,* Kotka, 2775 bls., sulphite, 490 tons.
Lagerloef Trading Co., *Scanpenn,* Kotka, 500 bls., sulphate, 100 tons.
Lagerloef Trading Co., *Scanstates,* Kotka, 1920 bls., mechanically ground pulp, 384 tons.
Scherman Bros., *Eidsvold,* Kobe, 220 bls., rags.
Scherman Bros., *Eidsvold,* Yokohoma, 185 bls., rags.
Gottesman & Co., Inc., *Skramatad,* Sweden, 3750 bls., sulphate.
Pagel Horton & Co., Inc., *Skramatad,* Sweden, 5500 bls., wood pulp.

NORFOLK IMPORTS

WEEK ENDING NOVEMBER 20, 1937

Gottesman & Co., Inc., *Etna,* Sweden, 11150 bls., sulphite.

NEW ORLEANS IMPORTS

WEEK ENDING NOVEMBER 20, 1937

Parsons & Whittemore, Inc., *Ermland,* ——, 867 bls., wood pulp.

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LIQUID BLUES
AND
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- THE ORIGINAL SELF-DISPERSING PIGMENT BLUES FOR TINTING
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Surface Temperature Pyrometer

A portable indicating pyrometer with a quick acting contact thermocouple.

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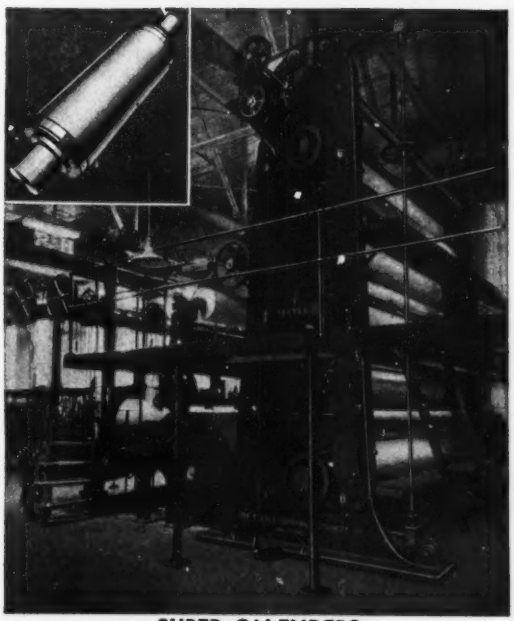

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Southern Office
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Providence, R. I.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, November 24, 1937.

The wholesale paper markets report conditions as little changed for the current week. Sales volume under the influence of slackening consumer demand continues light. Although the opinion is widespread that inventories of jobbers are now so low that they must soon re-enter the market to replenish their stocks, the market is "spotty" while business continues on an unsatisfactory hand-to-mouth basis. Little improvement in demand is expected by the trade for the remainder of this year. Like all industries and distributing centers, the paper market is under the influence of the adverse factors which now prevail and which are contributing to the continued recession in all divisions of the nation's business. Prices of all grades of paper hold firm, with only a few reports of slight reductions from prevailing market prices.

The demand for newsprint continues good, with contract shipments moving in normal volume.

The bond paper market is quiet. The volume of sales in fine papers continues on about the same relatively low level as in the preceding week. The demand for tissue papers continues light, with no change in demand or prices reported for this week.

The kraft paper market reports demand as light. A little improvement in demand is looked for in some quarters during the next few weeks, while the prevailing opinion seems to be for only a very gradual improvement in consumer demand until Spring. Prices are firm.

The box board market continues quiet. Consumer demand is now down to so low a level that one large producer is running its mills two days per week. Prices continue to hold firm.

Chemical Pulp

The chemical pulp market reports demand as very light, with the trend continuing downward. Prices remain firm and are unchanged for the week.

Mechanical Pulp

The demand for mechanical pulp is very light. Prices hold firm and at the level of the preceding week.

Old Rope and Bagging

The old rope market reports demand as very light. Prices are about on the level of last week. The bagging market is quiet, with slightly lower prices reported on foreign gunny.

Rags

The domestic rag market is very quiet. Lower prices on many grades of new and old rags are reported for the current week. The foreign rag market is inactive and quotations are nominal.

Waste Paper

The waste paper market is very quiet. Declines in the prices of many grades of cuttings, flat stock and news are reported for this week.

Twines

The twine market is quiet. No change in prices is reported for the current week.

G. F. Laing on Powell River Board

Announcement of the election of George F. Laing as director of the Powell River Company to fill a vacancy on the board caused by the death of Anson S. Brooks, has just been made. Mr. Laing was formerly manager of the Bank of Montreal at Vancouver, B. C.

Mr. Laing began his banking career with the Bank of British North America at Toronto in 1889 and came to British Columbia in 1900. He served the Bank in various capacities on the prairies and in Toronto and following amalgamation of the banks became manager of a Toronto office of the Bank of Montreal, being transferred to Vancouver in 1921.

In announcing the election of Mr. Laing to the Powell River directorate, President S. D. Brooks said: "The company feels by reason of Mr. Laing's long connection with financial and business conditions in British Columbia that he will be a valuable acquisition to its board."

Laboratories Form An Association

Representatives of twenty of the principal commercial laboratories of the country, at a meeting in Chicago last week, completed the organization of the American Council of Commercial Laboratories. One of the purposes of the Council will be the promotion of the proper use of scientific testing methods for the protection and certification of quality in advertised goods.

In behalf of the Council it is stated that the members have been and will be carefully selected to include only organizations to which producers, retailers and consumers may look for unbiased determinations of quality. Engaging in research and testing for fees these independent laboratories ascertain and report facts for clients and are uninfluenced by any interior consideration.

Laboratories which are adjuncts of other enterprises, or which are not self-supporting, or which, for any reason are not independent are ineligible for membership in this council.

The following officers were elected to serve during 1938:

President, Preston S. Millar, Electrical Testing Laboratories, New York, N. Y.; vice-president, Monroe L. Patzig, Patzig Testing Laboratories, Des Moines, Iowa; secretary, D. E. Douty, United States Testing Company, Hoboken, N. J.; treasurer, A. R. Ellis, Pittsburgh Testing Laboratory, Pittsburgh, Pa.

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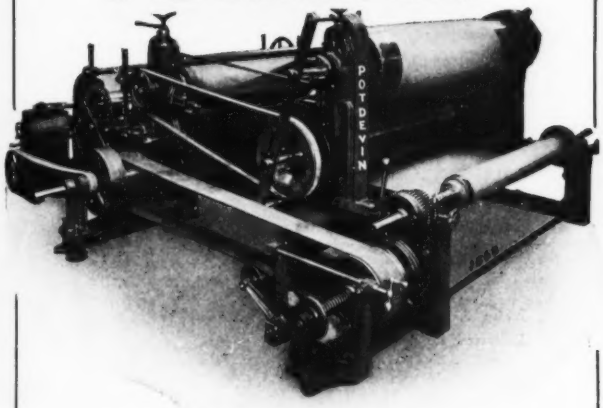

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WOOD PULP AGENTS

PRICE & PIERCE, Ltd.,

60 EAST 42nd ST.
NEW YORK

Miscellaneous Markets

Wednesday, November 24, 1937.
Office of the PAPER TRADE JOURNAL

BLANC FIXE—The demand for blanc fixe continues steady. Prices are firm and unchanged for the current week. Quotations on the pulp range at from $42.50 to $45 per ton, in bulk; the powder at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER—The bleaching powder market is reported as steady. Prices are firm and conform to the quotations of the preceding week. Bleaching powder is offered at from $2 to $2.25 per 100 pounds, in drums at works.

CASEIN—The demand for casein is reported fair. Domestic standard ground casein is quoted at from 12½ to 13 cents per pound; domestic finely ground casein at 14 cents per pound; all in bags, car lot quantities.

CAUSTIC SODA—The caustic soda market continues steady. Prices are firm. Solid caustic soda is quoted at from $2.10 to $2.30 per 100 pounds; flake and ground at from $2.50 to $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—The demand for china clay is steady. Prices are firm. Imported clay is quoted at from $14.50 to $25 per ton, ship side. Domestic filler clay is offered at from $6.50 to $12 per ton; coating clay at from $11 to $22 per ton, at mines.

CHLORINE—The chlorine market reports demand as steady. Prices are firm and unchanged for the week. Chlorine is quoted at $2.15 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The demand for rosin continues fair. Prices are lower for the week. Paper making rosin is quoted at $5.82; wood rosin at $5.90 per 280 pounds, gross weight, in barrels at Savannah. Seventy per cent rosin size is quoted at $3.00 per 100 pounds, in tank cars, f.o.b., shipping point.

SALT CAKE—The salt cake market is steady, with little, if any, domestic salt cake available. Quotations range at from $12 to $13.50 per tone; chrome salt cake at from $11 to $12, f.o.b., shipping point. Imported salt cake is offered at from $14.50 to $15 per ton, Gulf or Atlantic Seaboard, on dock.

SODA ASH—The soda ash market reports demand as steady. Prices are firm. Quotations on soda ash in car lots, at works, per 100 pounds, are as follows: in bulk, $.90; in bags, $1.05; and in barrels, $1.35.

STARCH—The demand for starch is steady. Prices for the current week are unchanged. Globe pearl is offered at $2.95 per 100 pounds, in bags, and at $3.20 in barrels. Special paper starch is quoted at $2.85 per 100 pounds, in bags, and at $3.10 in barrels; all prices in car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—The demand for sulphate of alumina is steady. Prices are firm. The commercial grades are quoted at from $1.25 to $1.60; iron free at from $2 to $2.25 per 100 pounds, in barrels, at works.

SULPHUR—The sulphur market reports demand as steady. Prices are firm and unchanged from the quotations of last week. Annual contracts are quoted at $18 per long ton, f.o.b., cars at mines. Spot and nearby car lots are quoted at $21 per ton.

TALC—The talc market is reported as steady. Prices continue firm and on the level of the preceding week. Domestic talc is quoted at from $15 to $18 per ton, Eastern mines. Imported talc is offered at from $25 to $40 per ton, on dock.

Market Quotations

Paper

Tissues—Per Ream—

White No. 1.....	1.10	@	—
White No. 1 M. G.	1.07½	@	—
White No. 1½....	.77½	@	—
White No. 2.....	.75	@	—
Anti-Tarnish M. G.	.77½	@	—
Colored	.90	@	—
Kraft	.77½	@	—
Manila	.75	@	—
Unbleached Toilet.	2.90	@	3.30
Bleached Toilet...	3.94	@	5.26

Paper Towels—

Unbleached	2.10	@	3.35
Bleached	3.30	@	3.70

Manila—

No. 1 Jute.....	9.00	@	9.25
No. 2 Jute.....	7.75	@	8.50
No. 1 Wood.....	4.00	@	5.25
No. 2 Wood.....	3.50	@	4.00

Fibre Papers—

No. 1 Fibre.....	4.25	@	5.50
No. 2 Fibre.....	4.00	@	4.75

(Delivered New York)

News, per ton—

Roll. contract.....	42.50	@	—
Sheets	47.50	@	—

Kraft—

No. 1 Northern....	5.25	@	5.75
Standard	5.00	@	—
Southern	4.50	@	—
Machine glazed, plain, striped....	5.00	@	—

Boards, per ton—

News	37.50	@40.00
Chip	37.50	@40.00
Sgl. Mla. Ll. Chip.	52.50	@ —
Jute Lined Chip...	52.50	@ —
White Pat. Coated.	65.00	@67.50
Kraft Liners	55.00	@ —
Binders Boards....	75.00	@80.00

The following are representative of distributors' resale prices:—

Rag Content Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1.	$41.40@$48.50	$42.55@$50.00
100% Rag .	32.80@ 38.50	33.95@ 39.75
85% Rag .	.....	32.20@ 37.75
75% Rag .	24.75@ 29.00	25.90@ 30.50
65% Rag .	21.65@ 26.25	22.80@ 27.75
50% Rag .	18.70@ 22.75	19.90@ 24.25
25% Rag .	15.80@ 19.25	16.95@ 20.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra

Sulphite Bonds and Ledgers—
White, Assorted Items,
Delivered in Zone 1:

	Bonds	Ledgers
No. 1..	$9.35@$11.50	$10.55@$12.75
No. 2..	8.50@ 10.25	9.65@ 11.75
No. 4..	7.60@ 9.25	8.80@ 10.75

Regular Colors @ $1.50 cwt. extra.
Heavy Colors @ $3.00 cwt. extra.

Free Sheet Book Papers—
White, Cased Paper,
Delivered in Zone 1:

No. 1 Glossy Coated..	$12.15@	$14.25
No. 2 Glossy Coated..	10.55@	12.25
No. 3 Glossy Coated..	9.35@	11.00
No. 4 Glossy Coated..	8.80@	10.50
No. 1 Antique (watermarked)	8.80@	10.50
No. 2 Offset.....	8.05@	9.50
A Grade E. F.....	7.90@	9.50
A Grade S. & S. C....	8.15@	9.75
B Grade E. F.....	7.30@	8.75
B Grade S. & S. C....	7.55@	9.00
C Grade E. F.....	7.00@	8.50
C Grade S. & S. C....	7.25@	8.75
D Grade E. F.....	6.75@	8.25
D Grade S. & S. C....	7.00@	8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—

Moist	35.00	@36.00
Dry	40.00	@42.00

(Delivered)

No. 1 Domestic and Canadian	36.00	@37.50

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—

Prime Bleached Sulphite	3.50	@	4.65
Prime Qualities—			
Easy-Bleaching Sulphite	3.25	@	3.75
Strong Unbleached Sulphite	2.75	@	3.65

(On Dock, Atlantic Ports)

Kraft Bleached	4.00	@	4.75
Kraft Light & Strong	3.00	@	3.75
Kraft No. 1.....	2.75	@	3.65
Kraft No. 2.....	2.50	@	2.75

(F.o.b. Pulp Mill)

Kraft Domestic.....	2.00	@	2.50

(Delivered)

Soda Bleached.....	3.25	@	—

Add 60 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	7.50	@	7.75
Silesias, No. 1....	5.25	@	5.75
New Unbleached...	7.50	@	8.00
Blue Overall.....	6.25	@	6.50
Fancy	2.75	@	3.00
Washables	2.25	@	2.50
Mixed Khaki Cuttings	3.75	@	4.00
O. D. Khaki Cuttings	4.50	@	4.35

Old Rags

White, No. 1—			
Repacked	3.50	@	3.75
Miscellaneous	2.75	@	3.00
White, No. 4			
Repacked	2.25	@	2.50
Miscellaneous	2.00	@	..
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Roonng Rags—			
No. 1.....	1.30	@	1.40
No. 2.....	.75	@	.80
No. 3 (bagging)..	.70	@	.80
No. 4.....	.70	@	.80
No. 5A.....	.65	@	.70

Foreign Rags

New Rags

New Dark Cuttings..	2.25	@	2.40
New Mixed Cuttings.	2.00	@	2.20
New Light Silesias..	5.50	@	5.75
Light Flannelettes...	5.50	@	5.75
New White Cuttings.	7.00	@	7.50
New Light Oxford..	4.00	@	4.50
New Light Prints...	3.00	@	3.25

Old Rags

No. 1 White Linens.	7.50	@	8.50
No. 2 White Linens.	6.50	@	7.50
No. 3 White Linens.	4.50	@	5.50

LOCKWOOD'S DIRECTORY
of the Paper and Allied Trades
1938 — 63rd Annual Edition
Price: $7.50 or $7.00 Cash With Order
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Published by Lockwood Trade Journal Co., Inc.
15 West 47th Street, New York, N. Y.

PAPER AND PULP MILLS

All the Paper, Ground Wood Pulp and Chemical Fiber Mills of the United States, Canada, Cuba and Mexico, geographically arranged and completely described as follows:

Name of the company. Location of mill. Names of Officers and their connections.

Name of superintendent wherever possible.

It is indicated whether the plant is a paper mill, ground wood mill, sulphite pulp mill, sulphate pulp mill or a soda pulp mill.

Types of mill equipment. Kind of power used, whether water, steam or electricity.

Product manufactured. Total production in pounds per 24 hours.

Shipping point, railroad siding. Post office, nearest bank, money order and telegraph office. Population.

Glazed, Coated Paper and Board Manufacturers.

List of Mill Officials—Alphabetical list of Classified Mill Products—City Address of Mill or Mill Agent in some of the principal cities of the United States and Canada.

Alphabetical list of Paper Stock and Rags consumed by the Mills including name of Purchasing Agent.

Classified list of Manufacturers of Equipment and supplies purchased by Paper and Pulp Mills.

CONVERTERS' SECTION
Manufacturers of Paper Specialties

A Classified List of Concerns Manufacturing Products from Paper, Cardboard, etc., such as Drinking Cups—Mailing Tubes—Towels, etc.

Lists of Concerns Manufacturing the Following Products:

ENVELOPES—Concerns manufacturing commercial envelopes.

PAPER BOXES—Keyed to show whether stiff, folding or corrugated boxes are made, also whether suit, millinery, confectionery, etc., etc.

PAPER BAGS — PREPARED ROOFING
TABLETS AND PADS — TWINE
TAGS — PAPETERIES
TOILET PAPER (Roll and Package)
VEGETABLE PARCHMENT AND WAXED PAPER

ADDITIONAL SECTIONS

PAPER DEALERS—A list geographically arranged of the wholesale paper houses with marks indicating whether the business is done through stores or from warehouses or mill direct; large concerns selling paper as a side line are also included.

RAGS AND PAPER STOCK DEALERS — PULP TESTING CHEMISTS
WALL PAPER PRINTERS — TRADE ASSOCIATIONS
WATERMARKS AND BRANDS — STATISTICAL INFORMATION
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No. 1 White Cotton.	4.25	@	4.75
No. 2 White Cotton.	3.25	@	3.75
No. 3 White Cotton.	2.50	@	3.00
No. 4 White Cotton.	1.90	@	2.20
Extra Light Prints..	2.00	@	2.40
Ord. Light Prints...	1.75	@	2.15
Med. Light Prints...	1.55	@	1.95
Dutch Blue Cottons .	2.25	@	2.50
French Blue Linens..	3.00	@	—
Checks and Blues...	2.00	@	—
Linsey Garments....	2.00	@	2.10
Dark Cottons.....	1.60	@	1.70
Old Shopperies.....	1.45	@	—
New Shopperies.....	1.45	@	—
French Blues.....	2.25	@	2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	2.35	@	2.40
Domestic	2.15	@	2.35
Wool Tares, light....	1.50	@	1.75
Wool Tares, heavy..	2.00	@	2.10
Bright Bagging.....	1.60	@	1.70
Manila Rope—			
Foreign	3.25	@	3.50
Domestic	3.50	@	3.75
Jute Threads.....	2.75	@	3.00
Sisal Strings.....	2.35	@	2.45
Mixed Strings.....	Nominal		

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.35	@	2.50
Ordinary Hard White No. 1....	1.90	@	2.00
Soft White No. 1..	2.15	@	2.25
Flat Stock—			
Stitchless	.75	@	.85
Overissue Mag.....	.75	@	.85
Solid Flat Book...	.55	@	.60
Crumbled No. 1....	.40	@	.45
Ledger Stock.....	1.00	@	1.10
New B. B. Chips....	.25	@	.30
Manila—			
New Env. Cut....	1.85	@	2.00
New Cuttings.....	1.50	@	1.60
Old Kraft Machine—			
Compressed bales..	.70	@	.75
News—			
No. 1 White News	1.10	@	1.20
Strictly Overissue.	.45	@	.50
Strictly Folded....	.27½	@	.30
No. 1 Mixed Paper..	.15	@	.20

Twines

(F. o. b. Mill)

(Soft Fibre)

Coarse Polished—			
India	.15	@	.16½
White Hemp.....	.16	@	.17½
Fine Polished—			
Fine India.....	.20	@	.22
Unpolished—			
Box	.11	@	.11½
Paper Makers.....	.11	@	.12¾
Tube Rope	.11½	@	.14¼
Wall Paper	.12½	@	.13¾
Wrapping	.14	@	.14½
Soft Fiber Rope...	.13¾	@	.14¼

(Hard Fibre)

Medium Java.....	.12	@	.12½
Mex. Sisal.....	.11	@	.11½
Manila	.21	@	.28
Domestic	3.25	@	3.50
Transmission Rope..	1.90	@	2.00
Soft Jute Ropes....	2.10	@	2.25
Jute Carpet Threads.	1.50	@	1.75
Gunny No. 1—			
Foreign	2.35	@	2.40
Domestic	1.90	@	2.00
Bleachery Burlap....	3.75	@	4.00
Scrap Burlap			
Foreign	2.00	@	2.15
Domestic	1.60	@	1.80
Scrap Sisal.....	1.90	@	2.00
Scrap Sisal for Shredding	2.50	@	2.65
Wool Tares, heavy...	—	@	2.15
New Burlap Cuttings	2.45	@	3.00
Aust. Wool Pouches.	3.50	@	3.65
Heavy baling bagging	2.25	@	2.30
Paper Mill Bagging.	1.50	@	1.60
Bagging No. 2.....	.85	@	1.00

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	.03	@	.03¼
New White No. 1.	.07½	@	.07¾
New White No. 2.	.05½	@	.05¾
New Light Flannelettes	—	@	.06
Silesias No. 1.....	.03¾	@	.04
New Black Silesias..	.03¾	@	.04
Silesias No. 1 Soft Unbleached.....	.08	@	.08¼
Blue Cheviot.....	.06¾	@	.07
Fancy	.03¼	@	.03½
Washable	.03	@	.03¼
Cottons—According to grades—			
Blue Overalls.....	.06½	@	.06¾
New Black, soft...	.03¾	@	.04
Khaki Cuttings.....	.03½	@	.04
O. D. Khaki.....	.04	@	.04½
Corduroy	.02¾	@	.03
New Canvas.....	.07¼	@	.07½
B. V. D. Cuttings.	.08¾	@	.08½

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues.....	1.75	@	2.00
Third and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings.....	3.90	@	4.00
Roofing Stock—			
No. 1.....	1.15	@	1.20
No. 2.....	.90	@	1.00
No. 3.....	.85	@	.90

Foreign Rags

(F. o. b. Boston)

Dark Cottons.....	1.35	@	1.50
Dutch Blues.....	2.85	@	3.00
New Checks and Blues	2.85	@	3.00
Old Fustians.....	2.50	@	2.60
Old Linsey Garments	1.90	@	2.00
New Silesias.....	6.00	@	6.50

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shavings—			
New White, No. 1.	.07	@	.07½
New White, No. 2.	.04½	@	.05
Light Silesias.....	.05½	@	—
Silesias, No. 1....	—	@	.05½
Black Silesias, soft.	.03	@	.03½
New Unbleached..	.07	@	.07½
Washable, No. 1..	.02	@	.02¼
Blue Overall.....	.04	@	.04½
Cottons—According to grades—			
Washable, No. 2..	.01½	@	.01¾
New Blue.....	.01½	@	.01½
Fancy Percales....	—	@	.03½
New Black Soft...	.03	@	.03½
New Light Seconds	—	@	.05½
New Dark Seconds	1.00	@	1.25
Khaki Cuttings—			
No. 1 O. D.....	.03½	@	.04
No. 2 Mixed.....	—	@	.02¾
Corduroy	.02½	@	.02¾
New Canvas.....	.06	@	.06½
New Black Mixed.	.02	@	.02¾

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.25
Miscellaneous	2.75	@	3.00
Flannels and Blues—			
Miscellaneous	1.25	@	1.50
Repacked	1.50	@	1.75
Stockings			
(Export)	3.00	@	3.50
Roofing Stock—			
Foreign No. 1....	—	@	1.25
Domestic No. 1...	—	@	1.25
Domestic No. 2...	1.00	@	1.10
Roofing Bagging..	.80	@	.90

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.75	@	—
Domestic	1.70	@	1.75
Manila Rope.....	3.00	@	3.25
Sisal Rope.....	2.00	@	2.25
Mixed Rope	1.00	@	1.10
Scrap—			
No. 1.....	1.50	@	—
No. 2.....	1.00	@	1.25
Wool Tares, heavy..	3.25	@	3.50
Mixed Strings....	1.00	@	1.10
No. 1 New Light Burlap	3.00	@	3.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White.	2.35	@	2.40
No. 2 Hard White.	2.00	@	2.10
No. 1 Soft White..	2.00	@	2.10
No. 2 Soft White..	1.40	@	1.50
No. 1 Mixed.....	.70	@	.75
Solid Ledger Stock..	1.50	@	1.60
Ledger Stock, white.	1.25	@	1.30
Ledger Stock, colored	.85	@	.90
No. 1 Books, heavy..	.85	@	.90
Manila Cuttings.....	1.50	@	1.75
Print Manila.....	.45	@	.50
Container Manila....	—	@	.40
Kraft Paper.....	.90	@	.95
No. 1 Mixed Paper..	.25	@	.30
Straw Board Chip...	.25	@	.30
Binders Board Chip.	.25	@	.30
Corrugated Board...	.50	@	.55
Overissue News.....	.55	@	.60
Old Newspapers	.30	@	.35

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White.	2.25	@	2.40
No. 1 Soft White..	1.85	@	2.15
No. 2 Mixed.....	.75	@	.80
Solid Ledger Books..	1.50	@	1.75
Overissue Ledger Stock	1.30	@	1.50
Mixed Ledgers.....	.85	@	.90
No. 1 Books, heavy..	.70	@	.80
No. 1 Books, light...	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.60	@	1.70
Manila Env. Cuttings, extra quality.....	2.00	@	2.25
No. 1 Old Manila...	.95	@	1.00
White Blank News..	1.30	@	1.40
No. 1 Kraft.....	1.10	@	1.15
Mixed Papers.....	.22½	@	.25
Print Manila.....	.45	@	.50
Container Manilas...	.27½	@	—
Old Newspapers.....	.25	@	.30
Paper Wool Strings.	—	@	.60
Overissue News.....	.45	@	.50
Box Board Chips....	.35	@	.40
Corrugated Boxes....	.25	@	.30
Kraft corrugated boxes	.55	@	.80
Screenings wrappers.	.45	@	.50

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	—	@	3.00

CHICAGO

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	3.15	@	3.25
No. 1 Hard White.	2.50	@	2.60
No. 1 Soft White..	2.05	@	2.10
Ledger & Writings..	1.30	@	1.40
Solid Books.....	1.20	@	1.25
Blanks	1.40	@	1.50
Krafts	.90	@	1.00
New Kraft Cuts.....	.70	@	1.80
Manila Env. Cuts...	2.15	@	2.25
Ex. No. 1 Manila...	2.15	@	2.25
Print Manila.....	1.70	@	1.80
Overissue News.....	.60	@	.70
Old Newspapers—			
No. 1 Folded News	.45	@	.50
No. 1 Mixed Paper	.35	@	.40
Roofing Stocks—			
No. 1.....	2.00	@	2.25
No. 2.....	1.85	@	2.00

TORONTO

Paper

Bonds and Ledgers

Delivered

No. 1 White	.35½	@	.36½
No. 1 Tints	.36½	@	.37½
No. 2 White	.26½	@	—
No. 2 Tints	.27½	@	—
No. 4 White	—	@	.1550
No. 4 Tints	.16	@	.1650
No. 5 Bond—White .	11.35	@	—
No. 5 Bond—Tints .	12.35	@	—
No. 5 Bond—Golden Rod	13.35	@	—
No. 5 Ledger—White .	.1185	@	—
No. 5 Ledger—Tints.	.1285	@	—
No. 6 Bond—White .	10.75	@	—
No. 6 Bond—Tints .	11.25	@	—
No. 6 Bond—Golden Rod	12.75	@	—
No. 7 Bond—White .	9.10	@	—
No. 7 Bond—Tints .	9.60	@	—
No. 7 Bond—Golden Rod	11.10	@	—
Book—			
No. 1 M. F.	7.10	@	7.35
No. 2 M. F.	6.85	@	7.20
No. 3 M. F.	5.60	@	6.20
No. 1 S. C.	7.60	@	7.85
No. 2 S. C.	7.10	@	7.35
No. 3 S. C.	6.10	@	6.35
No. 1 Coated and Litho	12.50	@	—
No. 2 Coated and Litho	11.00	@	—
No. 3 Coated and Litho	9.50	@	10.00
Coated tinted.....	13.00	@	13.50
Wrapping—delivered—			
Rag Brown.....	4.85	@	5.55
White Wrap.....	4.00	@	—
"B" Manila.....	4.90	@	6.25
No. 1 Manila.....	5.50	@	7.00
Fiber	5.50	@	—
Kraft, No. 2.....	5.50	@	—

(F. o. b. Cars, Toronto)

News, per ton—			
Rolls (contract)...	38.50	@	—
Sheets	45.50	@	—

Pulp

Ground wood.....	32.00	@	—
Unbleached Sulphite.	59.00	@	—
Book (Class 1).....	71.00	@	—
Writing (Class 2)..	72.00	@	—
Select (Class 3).....	73.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut...	2.50	@	—
Soft White.....	2.15	@	—
White Blk. News..	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.00	@	—
Light and Crumpled Book Stock.	.85	@	—
Ledgers and Writings	1.20	@	—
Manilas—			
New Manila Cut...	1.50	@	—
Printed Manilas...	.65	@	—
Kraft	1.00	@	1.70
News and Scrap—			
Strictly Overissue.	.65	@	—
Strictly Folded....	.60	@	—
No. 1 Mixed Paper..	.50	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.09	@	.09¼
Fancy Shirt Cuttings	.03½	@	.03¾